

# EPA's Clean Power Plan for Existing Power Plants: Frequently Asked Questions

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## Summary

On March 28, 2017, President Trump signed Executive Order 13783, directing federal agencies to review existing regulations and policies that potentially burden the development or use of domestically produced energy resources. Among its specific provisions, the order directed the Environmental Protection Agency (EPA) to review the Clean Power Plan, one of the Obama Administration's most important actions directed at reducing greenhouse gas (GHG) emissions.

The Clean Power Plan was promulgated in August 2015 to reduce GHG emissions from the generation of electric power. Fossil-fueled electric power plants are the largest U.S. source of such emissions, accounting for about 29% of the U.S. total from all sources. The rule sets individual state targets for average emissions from existing power plants—interim targets for the period 2022-2029 and final targets to be met by 2030. The targets for each state were derived from a formula based on three “building blocks”—efficiency improvements at individual coal-fired power plants and increased use of renewable power and natural- gas- combined-cycle power plants to replace more polluting coal-fired units. Although EPA set state-specific targets, states would determine how to reach these goals, not EPA. Each state can reach its goal however it chooses, without needing to “comply” with the assumptions in the EPA building blocks.

When the rule is fully implemented, EPA has said it would expect the rule's targets to reduce total power plant GHG emissions by about 32% in 2030 as compared with 2005 levels. A variety of factors—some economic, some the effect of government policies at all levels—have already reduced power sector GHG emissions about 2/3 of this amount as of 2015.

Whether the Clean Power Plan will be implemented as promulgated is uncertain, in part because of the executive order's directive to review and potentially revise or rescind it. The executive order directs EPA to review the CPP for consistency with several broad policies stated in section 1 of the order and, if appropriate, to publish for notice and comment proposed rules suspending, revising, or rescinding the rule.

Adding to questions about implementation, the rule is the subject of ongoing litigation in which a number of states and other entities have challenged it (while other states and entities have intervened in support of it). On February 9, 2016, the Supreme Court stayed implementation of the rule for the duration of the litigation. The U.S. Court of Appeals for the District of Columbia heard oral arguments in the case in September 2016, but agreed on April 28, 2017 to an EPA request to hold the case in abeyance for 60 days while the agency conducts the review required by the executive order. The court ordered the parties to submit briefs by May 15 on whether the court should remand the Clean Power Plan to EPA rather than hold it in abeyance.

This report provides background information and discusses the statutory authority under which EPA promulgated the rule. The Clean Power Plan relies on authority asserted by EPA in Section 111(d) of the Clean Air Act (CAA). This section has been infrequently used and seldom interpreted by the courts, so a number of questions have arisen regarding the extent of EPA's authority and the mechanisms of implementation.

The report also summarizes the provisions of the Clean Power Plan rule as it was finalized on August 3, 2015, including

- how large an emission reduction would be achieved under the rule nationwide,
- how EPA allocated emission reduction requirements among the states,
- the potential role of cap-and-trade systems and other flexibilities in implementation,

- what role the actions of individual power plants (i.e., “inside the fence” actions) and actions by other actors, including energy consumers (“outside the fence” actions) might play in compliance strategies, and
- what role there would be for existing programs at the state and regional level, such as the nine-state Regional Greenhouse Gas Initiative (RGGI), and for broader GHG reduction programs such as those implemented in California.

The report also discusses options that Congress has to influence EPA’s action.

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On August 3, 2015, the Environmental Protection Agency (EPA) promulgated standards for greenhouse gas (GHG) emissions from existing fossil-fuel-fired power plants under Section 111(d) of the Clean Air Act (CAA).<sup>1</sup> The rule, known as the Clean Power Plan (CPP), appeared in the *Federal Register* on October 23, 2015.<sup>2</sup> Information regarding the rule and its current status are posted on EPA's website.<sup>3</sup>

The agency conducted significant outreach to interested parties both before and after the rule's proposal. Before proposal, according to Bloomberg BNA, "Senior Environmental Protection Agency officials consulted with at least 210 separate groups representing a broad range of interests in the Washington, DC, area and held more than 100 meetings and events with additional organizations across regional offices."<sup>4</sup> Despite, or perhaps because of, these outreach efforts, EPA received more than 4.3 million public comments following the rule's proposal, the most ever for an EPA rule.<sup>5</sup> The agency continued outreach activities during the public comment period and before publication of the final rule.

Interest in the rule reflects what is generally conceded to be the importance of its potential effects. The economy and the health, safety, and well-being of the nation depend on a reliable and affordable power supply, which many contend would be adversely affected by controls on GHG emissions from power plants. At the same time, an overwhelming scientific consensus has formed around the risks, potentially catastrophic, of greenhouse gas-induced climate change. To determine how the rule addresses these issues, congressional committees asked EPA officials numerous questions about the rule, and individual Members wrote EPA seeking additional information about the rule's potential impacts.<sup>6</sup> This congressional interest has continued since the final rule was promulgated. EPA responded to questions and comments by making numerous changes to the rule between proposal and promulgation.

The rule is the subject of ongoing litigation: a number of states and other entities have challenged the rule, while other states and entities have intervened in support of it. On February 9, 2016, the Supreme Court granted applications to stay the rule for the duration of the litigation. While EPA cannot currently enforce the rule—because the litigation has not yet been resolved—the contents and parameters of the rule as promulgated remain important: Some states are not engaged in compliance planning in light of the stay, while other states have expressed their intention to proceed with planning.<sup>7</sup> In addition, on March 28, 2017, President Trump signed Executive Order 13783, directing federal agencies to review existing regulations and policies that potentially burden the development or use of domestically produced energy resources. Among its specific

<sup>1</sup> 42 U.S.C. §7411(d).

<sup>2</sup> U.S. EPA, "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units," Final Rule, 80 *Federal Register* 64661, October 23, 2015.

<sup>3</sup> <https://www.epa.gov/Energy-Independence>. EPA also promulgated standards for new, modified, and reconstructed power plants the same day. These New Source Performance Standards and supporting materials can be found at <https://www.gpo.gov/fdsys/pkg/FR-2015-10-23/pdf/2015-22837.pdf>.

<sup>4</sup> "EPA Consulted with Hundreds of Groups on Carbon Rule for Existing Power Plants," *Daily Environment Report*, April 8, 2014.

<sup>5</sup> More than 34,000 public submissions on the proposal can be viewed at <http://www.regulations.gov/#!docketDetail;D=EPA-HQ-OAR-2013-0602>. An interactive map allowing users to search for comments by state officials can be found at <http://bipartisanpolicy.org/energy-map/>.

<sup>6</sup> See, for example, the letter from a bipartisan group of 47 Senators to EPA Administrator Gina McCarthy, May 22, 2014, at [http://www.fischer.senate.gov/public/\\_cache/files/79d2321e-175c-4456-b4c7-f9b600e15288/5.22.14-senate-ghg-dear-colleague-letter.pdf](http://www.fischer.senate.gov/public/_cache/files/79d2321e-175c-4456-b4c7-f9b600e15288/5.22.14-senate-ghg-dear-colleague-letter.pdf).

<sup>7</sup> See E&E News, "Power Plan Hub: Supreme Court Stay Response," at [https://www.eenews.net/interactive/clean\\_power\\_plan#planning\\_status](https://www.eenews.net/interactive/clean_power_plan#planning_status), May 9, 2017.

provisions, the order directed EPA to review the Clean Power Plan and three proposed and final rules related to it “for consistency with the policy set forth in ...this order,” and, if appropriate, to “suspend, revise, or rescind” them. Thus, the status of the Clean Power Plan is in flux, with major decisions possible from both the executive and judicial branches.

In order to provide basic information about the rule as promulgated, and about the ongoing litigation and reconsideration of the rule, this report presents a series of questions and answers.

## Background

### Q: Why did EPA promulgate the Clean Power Plan?

A: EPA promulgated emissions guidelines to limit carbon dioxide (CO<sub>2</sub>) emissions from existing power plants under Section 111(d) of the CAA for a variety of reasons. Some important context includes the following:

- The Supreme Court in *Massachusetts v. EPA* in 2007 determined that “air pollutant,” as used in the CAA, covers GHGs.<sup>8</sup> EPA thereafter determined that GHGs are air pollutants that were “reasonably anticipated to endanger both public health and welfare.”<sup>9</sup>
- In December 2010, EPA entered into a settlement agreement to issue New Source Performance Standards (NSPSs) for GHG emissions from electric generating units (EGUs) under Section 111(b) of the CAA and emission guidelines under Section 111(d) covering existing EGUs.<sup>10</sup> As discussed further below,<sup>11</sup> EPA finalized NSPSs for GHG emissions from new, modified, and reconstructed fossil-fuel-fired EGUs at the same time as the CPP.<sup>12</sup>
- In the context of U.S. commitments under a 1992 international treaty, the United Nations Framework Convention on Climate Change (UNFCCC), President Obama pledged in 2009 to reduce U.S. GHG emissions by 17% below 2005 levels by 2020, consistent with an 80% reduction by 2050.<sup>13</sup> The President set a

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<sup>8</sup> *Massachusetts v. EPA*, 549 U.S. 497 (2007), actually involved GHG emissions from motor vehicles, not power plants. In 2011, however, the Court explicitly ruled that “air pollutant” includes GHGs when applied to power plants under Section 111. *American Elec. Power Co., Inc. v. Connecticut*, 564 U.S. 410, 424-29 (2011). For further discussion of these decisions, see CRS Report R43699, *Key Historical Court Decisions Shaping EPA's Program Under the Clean Air Act*, by (name redacted) and (name redacted) .

<sup>9</sup> See EPA, “Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act,” Final Rule, 74 *Federal Register* 66496, December 15, 2009. EPA’s “endangerment finding” was upheld by the Supreme Court in *Util. Air Regulatory Group v. EPA*, 134 S. Ct. 2427 (2014).

<sup>10</sup> See Settlement Agreement Between State of New York, and U.S. EPA, December 23, 2010, at <http://www2.epa.gov/sites/production/files/2013-09/documents/boilerghgsettlement.pdf>; CRS Report R44807, *U.S. Climate Change Regulation and Litigation: Selected Legal Issues*, by (name redacted) 12.

<sup>11</sup> See below, “Q: How do the Clean Power Plan standards for existing power plants relate to EPA’s GHG standards for new fossil-fueled power plants?”

<sup>12</sup> EPA, “Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units,” Final Rule, 80 *Federal Register* 64509, October 23, 2015. As noted in preamble to this rule, EPA first proposed a New Source Performance Standard for GHG emissions from new fossil fuel-fired EGUs in April 2012; it withdrew that proposal and issued a new proposal in January 2014.

<sup>13</sup> See CRS Report R40001, *A U.S.-Centric Chronology of the United Nations Framework Convention on Climate Change*, by (name redacted); and CRS Report R43120, *President Obama's Climate Action Plan*, coordinated by (name redacted) .



further goal as the U.S. national contribution to global GHG reductions under the 2015 Paris Agreement: a 26% to 28% reduction from 2005 levels to be achieved by 2025, consistent with a straight-line path to an 80% reduction by 2050.<sup>14</sup> Other countries have also pledged GHG emissions abatement.<sup>15</sup> Parties to the Paris Agreement (currently 143) are legally bound to submit GHG emission reduction pledges, although they are not bound to the quantitative targets themselves. As of April 27, 2017, 165 intended nationally determined contributions—covering more than 190 countries, including all major emitters—had been submitted. The PA entered into force on November 4, 2016, and the United States is a Party, following President Obama's communication of U.S. acceptance of the agreement in September 2016. The U.S. Nationally Determined Contribution (NDC) is registered in the interim Registry of NDCs.

Fossil-fueled EGUs account for 29% of U.S. GHG emissions. It would be challenging to substantially abate U.S. GHG emissions without addressing these sources.

**Q: How much progress has the United States made in reducing GHG emissions and meeting emission targets?**

A: **Figure 1** illustrates net U.S. GHG emissions between 1990 and 2015.<sup>16</sup> As the figure indicates, U.S. GHG emissions increased during most of the years between 1990 and 2007. GHG emissions decreased substantially in 2008 and 2009 as a result of a variety of factors—some economic, some the effect of government policies at all levels. Since 2010, emissions have fluctuated but have not surpassed 2009 levels.

The figure also compares recent U.S. GHG emission levels to the 2020 and 2025 emission goals. Based on 2015 GHG emission levels, the United States is more than halfway to reaching the Administration's 2020 goal (17% below 2005 levels). U.S. GHG levels in 2015 were 11% below 2005 levels.

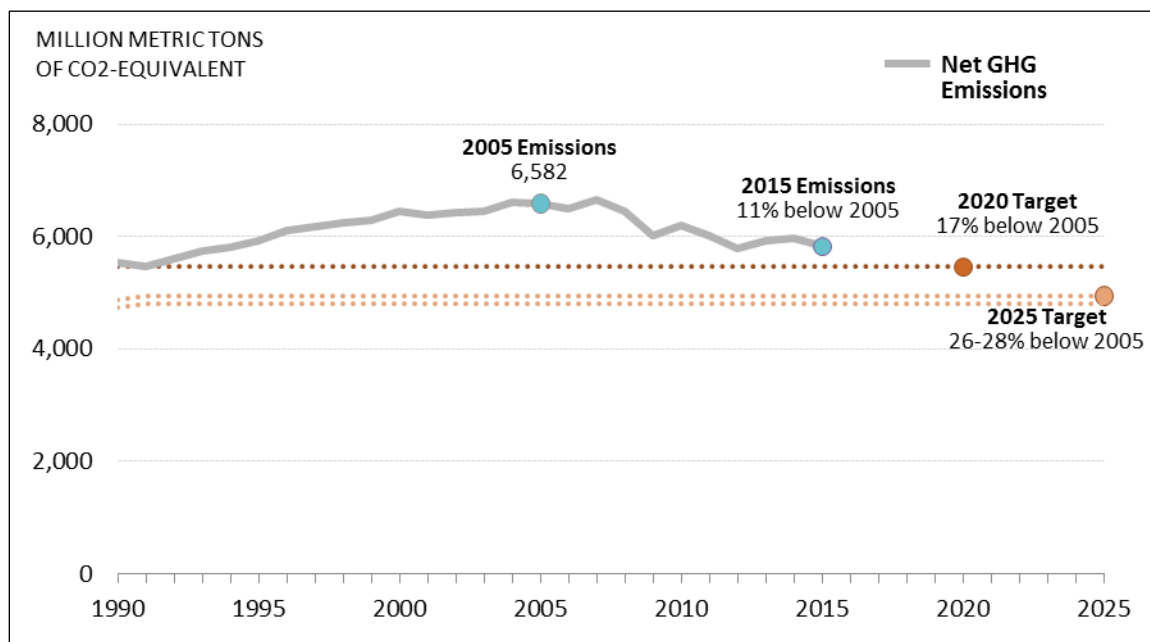
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<sup>14</sup> See CRS Report R44609, *Climate Change: Frequently Asked Questions about the 2015 Paris Agreement*, by (name redacted) and (name redacted).

<sup>15</sup> See CRS In Focus IF10239, *President Obama Pledges Greenhouse Gas Reduction Targets as Contribution to 2015 Global Climate Change Deal*, by (name redacted).

<sup>16</sup> Net GHG emissions include net carbon sequestration from land use, land use change, and forestry. This involves carbon removals from the atmosphere by photosynthesis and storage in vegetation.

**Figure 1. U.S. GHG Emissions (Net)**  
Compared to 2020 and 2025 Emission Targets

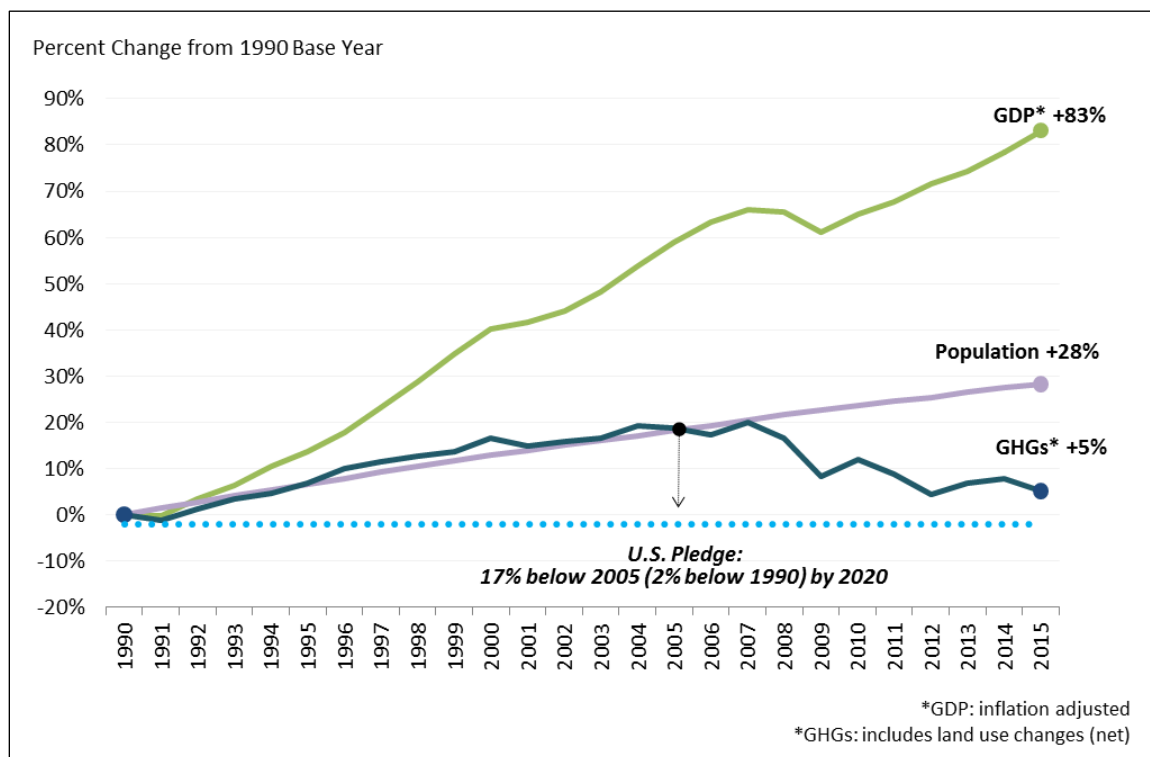


**Source:** Prepared by CRS; data from EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2015*, April 2017, <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>.

**Notes:** Net GHG emissions includes net carbon sequestration from land use, land use change, and forestry. This involves carbon removals from the atmosphere by photosynthesis and storage in vegetation.

**Figure 2** illustrates the percentage change in net U.S. GHG emissions, U.S. economic activity measured as gross domestic product (GDP, adjusted for inflation), and U.S. population between 1990 and 2015. As **Figure 2** indicates, during that period, U.S. economic activity increased by 83%, population increased 28%, and GHG emissions increased by 5%.

**Figure 2. Percentage Change in U.S. GHG Emissions, the Economy, and Population 1990-2015**



**Source:** CRS figure using GHG emissions data from Environmental Protection Agency, *Inventory of Greenhouse Gas Emissions and Sinks: 1990-2015*, April 2017; GDP data from U.S. Bureau of Economic Analysis, National Economic Accounts; population data from U.S. Census Bureau; accessed May 12, 2017.

**Notes:** GDP, or “gross domestic product,” is one measure of national economic activity. The six GHGs for which emissions are estimated are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

Net GHG emissions includes net carbon sequestration from land use, land use change, and forestry. This involves carbon removals from the atmosphere by photosynthesis and storage in vegetation.

## Q: How much does the generation of electricity contribute to total U.S. GHG emissions?

A: The U.S. electricity generation sector<sup>17</sup> contributes the largest percentage of U.S. GHG emissions, accounting for about 29% of all U.S. GHG emissions in 2015.<sup>18</sup> CO<sub>2</sub> emissions account for the vast majority (99% in 2015) of GHG emissions from the electricity sector. As illustrated in **Figure 3**, CO<sub>2</sub> emissions from electricity generation generally increased between 1990 and 2007, but have generally decreased since that time.<sup>19</sup>

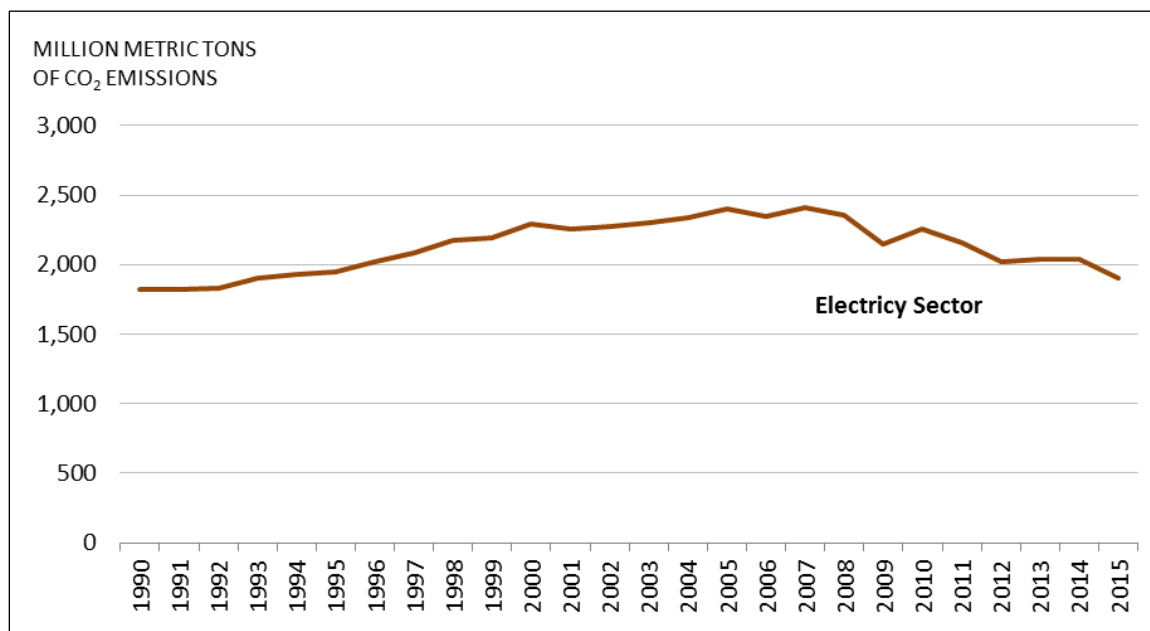
<sup>17</sup> Other sectors include transportation, industrial, commercial, and residential.

<sup>18</sup> EPA, *Inventory of Greenhouse Gas Emissions and Sinks: 1990-2015*, April 2017.

<sup>19</sup> For a further discussion, see CRS Report R44451, *U.S. Carbon Dioxide Emissions Trends and Projections: Role of the Clean Power Plan and Other Factors*, by (name redacted).

**Figure 3. CO<sub>2</sub> Emissions from the Electricity Sector**

1990-2015



**Source:** Prepared by CRS, data from EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2015*, April 2017.

### Q: What other steps has EPA taken to reduce GHG emissions?

A: Prior to the promulgation of this rule, EPA had already promulgated GHG emission standards for light-duty and medium- and heavy-duty vehicles, using its authority under Section 202 of the CAA.<sup>20</sup> Light-duty vehicles (cars, SUVs, vans, and pickup trucks) and medium- and heavy-duty vehicles (including buses, heavy trucks of all kinds, and on-road work vehicles) are collectively the largest emitters of GHGs other than power plants. Together, on-road motor vehicles accounted for 23% of U.S. GHG emissions in 2015.<sup>21</sup>

GHG standards for light-duty vehicles first took effect for Model Year (MY) 2012. Allowable GHG emissions will be gradually reduced each year from MY2012 through MY2025. In MY2025, emissions from new vehicles must average about 50% less per mile than in MY2010. The standards for heavier-duty vehicles began to take effect in MY2014. They will require emission reductions of 6% to 23%, depending on the type of engine and vehicle, when fully implemented in MY2018. A second round of standards, to address later medium- and heavy-duty vehicles, was promulgated on August 16, 2016.<sup>22</sup> The new standards cover model years 2018–2027 for certain trailers, and model years 2021–2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The standards are expected to lower CO<sub>2</sub>

<sup>20</sup> See CRS Report R40506, *Cars, Trucks, Aircraft, and EPA Climate Regulations*, by (name redacted) and (name redacted) and CRS Report R42721, *Automobile and Truck Fuel Economy (CAFE) and Greenhouse Gas Standards*, by (name redacted), (name redacted), and (name redacted).

<sup>21</sup> EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2015*, April 2017, pp. 3-24 and ES-7.

<sup>22</sup> EPA, “Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2,” 81 *Federal Register* 73478, October 25, 2016.

emissions by approximately 1.1 billion metric tons over the life of the covered vehicles, according to EPA.

EPA determined that the promulgation of standards for motor vehicles also triggered Clean Air Act requirements that new major stationary sources of emissions (power plants, refineries, etc.) obtain permits for their GHG emissions, and install the Best Available Control Technology, as determined by state and EPA permit authorities on a case-by-case basis, prior to construction. The Supreme Court partially upheld that position in June 2014, provided that the sources were already required to obtain permits for other conventional pollutants.<sup>23</sup>

The GHG permitting requirements for stationary sources have been in place since 2011 but were limited by EPA's "Tailoring Rule" to the very largest emitters—about 200 facilities as of mid-2014. The Supreme Court's June 2014 decision invalidated the Tailoring Rule, but found that EPA could limit GHG permit requirements to "major" facilities, so-classified as a result of their emissions of conventional pollutants. In so doing, the Court limited the pool of potential GHG permittees to a number similar to what the Tailoring Rule would have provided.

In 2016, EPA also promulgated GHG (methane) emission standards for new oil and gas sources<sup>24</sup> and for new and existing municipal solid waste (MSW) landfills.<sup>25</sup> Although these rules have been promulgated, they are being challenged in the U.S. Court of Appeals for the D.C. Circuit.<sup>26</sup> President Trump's Executive Order 13783 requires EPA to review the methane emission standards for oil and gas sources.<sup>27</sup> In addition, EPA announced that it will reconsider fugitive emissions monitoring requirements that are part of the methane standards and stay the compliance date for those requirements for 90 days.<sup>28</sup>

## Statutory Authority

### **Q: Under what authority did EPA promulgate the Clean Power Plan rule?**

A: EPA cited Section 111(d) of the CAA<sup>29</sup> for its authority to promulgate the CPP.<sup>30</sup> Section 111(d) requires EPA, among other things, to issue regulations providing for states to submit plans

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<sup>23</sup> *Utility Air Regulatory Group vs. EPA*, 134 S. Ct. 2427 (2014). For further discussion of this case, see CRS Report R44807, *U.S. Climate Change Regulation and Litigation: Selected Legal Issues*, by (name redacted).<sup>24</sup>

<sup>24</sup> EPA, "Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources; Final Rule," 81 *Federal Register* 35824, June 3, 2016.

<sup>25</sup> EPA, "Standards of Performance for Municipal Solid Waste Landfills: Final Rule," 81 *Federal Register* 59332, August 29, 2016; and "Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills: Final Rule," 81 *Federal Register* 59276, August 29, 2016.

<sup>26</sup> Industry trade associations and waste management and recycling companies have challenged EPA's 2016 revised emission guidelines for existing MSW landfills in the D.C. Circuit. *Nat'l Waste & Recycling Ass'n v. EPA*, No. 16-1371 (D.C. Cir., filed Oct. 27, 2016); *Utility Air Regulatory Group v. EPA*, No. 16-1374 (D.C. Cir., filed Oct. 28, 2016). Several states and industry groups are challenging the emission standards for new oil and gas sources. *North Dakota v. EPA*, No. 16-1242 (D.C. Cir. August 8, 2016). On April 7, 2017, the Department of Justice filed a motion, seeking to hold the cases in abeyance until after EPA completes its review of the rule and subsequent rulemakings resulting from its review. *Notice of Exec. Order and Motion to Hold Cases in Abeyance*, *Am. Petroleum Inst. v. EPA*, No. 13-1108 (D.C. Cir. Apr. 7, 2017).

<sup>27</sup> Exec. Order No. 13783, 82 Fed. Reg. 16, 093 §7 (Mar. 31, 2017) (signed on Mar. 28, 2017).

<sup>28</sup> Letter from E. Scott Pruitt, EPA Administrator, to Howard J. Feldman, American Petroleum Institute, April 18, 2017, [https://www.epa.gov/sites/production/files/2017-04/documents/oil\\_and\\_gas\\_fugitive\\_emissions\\_monitoring\\_reconsideration\\_4\\_18\\_2017.pdf](https://www.epa.gov/sites/production/files/2017-04/documents/oil_and_gas_fugitive_emissions_monitoring_reconsideration_4_18_2017.pdf).

<sup>29</sup> 42 U.S.C. §7411(d).

to EPA to impose “standards of performance” for existing stationary sources for any air pollutant that meets certain criteria. The first criterion is that the air pollutant must not already be regulated under certain other CAA provisions,<sup>31</sup> which are discussed further below. The second criterion is that CAA Section 111(b) NSPSs apply to the source category for the air pollutant.<sup>32</sup> EPA finalized Section 111(b) NSPSs for new, modified, or reconstructed power plants for CO<sub>2</sub> when it issued the CPP rule.<sup>33</sup> EPA often refers to Section 111(d) regulations as “emission guidelines.”<sup>34</sup>

**Q: What does Section 111(d), the authority EPA cited for the Clean Power Plan, bar EPA from regulating?**

A: CAA Section 111(d) bars EPA from regulating an air pollutant pursuant to Section 111(d) if the air pollutant is already regulated as a criteria pollutant under a National Ambient Air Quality Standard (NAAQS) under CAA Section 108 or, per EPA’s interpretation, as a hazardous air pollutant (HAP) under CAA Section 112.<sup>35</sup> CO<sub>2</sub> is not regulated as a criteria pollutant or a HAP under either of these provisions.

Because the House and Senate passed different versions of CAA Section 111(d) in the 1990 CAA amendments, controversy exists over EPA’s authority per the Section 112 criterion.<sup>36</sup> Under the House’s provision, CAA Section 111(d)(1)(A)(i) requires EPA to issue a rule under which each state shall submit to EPA a plan adopting standards of performance for any air pollutant that “is not included on a list published under section 108(a) or emitted from a source category which is regulated under section 112....”<sup>37</sup> Because EPA regulates power plants under Section 112 for

(...continued)

<sup>30</sup> See EPA, “Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units,” Final Rule, 80 *Federal Register* 64661, 64663-69, 64697, 64700-36, 64751-79, 64783-86, 64811-816, 64826, 64835-44, 64853-76, 64881-82, 64926, 64942, October 23, 2015.

<sup>31</sup> 42 U.S.C. §7411(d)(i).

<sup>32</sup> 42 U.S.C. §7411(d)(ii). CAA Section 111(b), 42 U.S.C. Section 7411(b), requires EPA to issue NSPSs for any stationary source category on an EPA-maintained list of source categories that “cause ... or contribute ... significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare.”

<sup>33</sup> EPA, “Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units,” Final Rule, 80 *Federal Register* 64509, October 23, 2015.

<sup>34</sup> See, for example, *ibid.* (*passim*); 40 C.F.R. subparts C, Cc, Cd, Ce, UUUU.

<sup>35</sup> The CAA regulates emissions from stationary sources in multiple ways, three of which are relevant here. The first way is by NAAQSs, reserved for harmful but not extremely hazardous pollutants from “numerous or diverse mobile or stationary sources.” CAA §108(a)(1)(B), 42 U.S.C. §7408(a)(1)(B). NAAQSs are implemented by source-specific emission limits imposed by states in “state implementation plans.” CAA §110, 42 U.S.C. §7410. The second way is by federally prescribed national emission standards for hazardous air pollutants, that is, particularly harmful pollutants. CAA §112, 42 U.S.C. §7412. And the third, of interest here, is by federally prescribed standards of performance for new stationary sources. CAA §111, 42 U.S.C. §7411.

<sup>36</sup> See below, “Q: What legal arguments are being made for and against the final Clean Power Plan rule?” in the Judicial Review section.

<sup>37</sup> P.L. 101-549, §108(g), 104 Stat. 2399, 2467 (1990), codified at 42 U.S.C. §7411(d)(1)(A)(i).

HAP,<sup>38</sup> some have argued that EPA is barred from regulating power plants under Section 111(d) for CO<sub>2</sub>, although CO<sub>2</sub> is not regulated as a HAP under Section 112.<sup>39</sup>

In the final CPP rule, EPA addressed this issue, finding the CAA Section 112 exclusion to “not bar the regulation under CAA section 111(d) of non-HAP from a source category, regardless of whether that source category is subject to standards for HAP under CAA section 112.”<sup>40</sup> Describing the House amendment as ambiguous,<sup>41</sup> EPA stated that the “sole reasonable” interpretation is that “the phrase ‘regulated under section 112’ refers only to the regulation of HAP emissions. In other words, EPA’s interpretation concluded that source categories ‘regulated under section 112’ are not regulated by CAA section 112 with respect to all pollutants, but only with respect to HAP.”<sup>42</sup>

In making this argument, EPA also cited the Senate’s 1990 amendment to CAA Section 111(d)(1)(A)(i), which is published in the *U.S. Statutes at Large* but not in the *U.S. Code*.<sup>43</sup> The Senate’s amendment excludes from Section 111(d) regulation any air pollutant “included on a list published under section 108(a) or 112....”<sup>44</sup> As such, the Senate language excludes air pollutants regulated under Section 112, rather than source categories, from Section 111(d) regulation, which is consistent with EPA regulating power plants for CO<sub>2</sub> under Section 111(d).

### **Q: When has EPA previously used its Section 111(d) authority?**

A: An analysis by the American College of Environmental Lawyers observed that since the 1970s, EPA has promulgated emission guidelines under Section 111(d) of the CAA on seven occasions.<sup>45</sup>

EPA’s 2005 Clean Air Mercury Rule (CAMR) delisted coal-fired electric utility steam generating units from Section 112 of the CAA and, instead, established a cap-and-trade system for mercury under Section 111(d);<sup>46</sup> however, the U.S. Court of Appeals for the D.C. Circuit vacated CAMR in 2008.<sup>47</sup> The court found that EPA’s delisting of the source category from Section 112 was

<sup>38</sup> EPA has regulated HAPs from power plants under CAA Section 112 as part of its mercury and air toxics standards (MATS). The Supreme Court held that EPA’s promulgation of the MATS rule was unlawful for failure to properly consider costs at the threshold stage of determining whether such regulation was “appropriate and necessary.” *Michigan v. EPA*, 135 S. Ct. 2699, 2707-2711 (2015). It remanded the case to the court of appeals, which remanded the MATS rule without vacatur to EPA to make the additional findings required by the Supreme Court. *White Stallion Energy Ctr. LLC v. EPA*, No. 12-1100, order (D.C. Cir. December 15, 2015) (per curiam).

<sup>39</sup> See below, “Q: What legal arguments are being made for and against the final Clean Power Plan rule?”

<sup>40</sup> EPA, “Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units,” Final Rule, 80 *Federal Register* 64711, October 23, 2015.

<sup>41</sup> *Ibid.*, 64712-64714.

<sup>42</sup> *Ibid.*, 64714; see also below, “Q: What legal arguments are being made for and against the final Clean Power Plan rule?”

<sup>43</sup> If there is a discrepancy between the *U.S. Statutes at Large* and the *U.S. Code*, the *U.S. Statutes at Large* is the controlling legal evidence of the law, unless Congress has enacted the relevant title of the *U.S. Code* as positive law; in that case, the *U.S. Code* is also legal evidence of the law. See 1 U.S.C. §§112, 204(a).

<sup>44</sup> P.L. 101-549, §302(a), 104 Stat. 2399, 2574 (1990).

<sup>45</sup> American College of Environmental Lawyers, “Memorandum for Environmental Council of the States (ECOS) Concerning Clean Air Act 111(d) Issues,” February 22, 2014, 5, 8-10, [http://acoel.org/file.axd?file=2014%2F9%2FACOEEL+Master+Memo+2-22-14+\(1\).pdf](http://acoel.org/file.axd?file=2014%2F9%2FACOEEL+Master+Memo+2-22-14+(1).pdf).

<sup>46</sup> 70 *Federal Register* 28606, May 18, 2005 (establishing Subpart HHHH).

<sup>47</sup> *New Jersey vs. EPA*, 517 F.3d 574 (D.C. Cir. 2008). EPA subsequently promulgated the MATS rule pursuant to CAA Section 112(d), which, as noted above, remains in litigation. 77 *Federal Register* 9304, February 16, 2012; see also footnote 38.



unlawful and that EPA was obligated to promulgate standards for mercury and other hazardous air pollutants under Section 112.<sup>48</sup> The court, therefore, did not reach the question of whether the flexible approach taken by EPA for mercury controls (i.e., a cap-and-trade system) met the requirements of Section 111(d).

In 1996, EPA used its Section 111(d) authority to regulate emissions of methane and non-methane organic compounds from large landfills.<sup>49</sup> These regulations set numeric emission limits and required designated landfills to use certain types of control equipment.<sup>50</sup> In August 2016, EPA revised emission guidelines for existing landfills operating prior to July 17, 2014.<sup>51</sup>

EPA also used its Section 111(d) authority for another emission guideline rule for large municipal waste combustors, which EPA proposed in 1989 and finalized in 1991 pursuant to a consent decree.<sup>52</sup> However, the 1990 CAA amendments added a new CAA Section 129 specifically to address emissions from solid waste incinerators, including municipal waste combustors. Section 129 required Section 111 NSPS and emission guidelines for solid waste incinerators to meet certain requirements,<sup>53</sup> so the 1991 rule for large municipal waste combustors was superseded by a later rule intended to comply with Section 129.<sup>54</sup> EPA adopted the remaining Section 111(d) emission guidelines for acid mist from sulfuric acid production units,<sup>55</sup> fluoride emissions from phosphate fertilizer plants,<sup>56</sup> total reduced sulfur emissions from kraft pulp mills,<sup>57</sup> and fluoride emissions from primary aluminum plants.<sup>58</sup> Additionally, EPA has promulgated six rules that implement Section 111(d) in conjunction with the requirements of CAA Section 129.<sup>59</sup>

### **Q: How do the Clean Power Plan standards for *existing* power plants relate to EPA's GHG standards for *new* fossil-fueled power plants?**

A: EPA finalized standards for *new* fossil-fuel-fired power plants under Section 111(b) of the CAA on the same day it finalized the CPP rule.<sup>60</sup> As discussed earlier, when EPA sets NSPSs for a source category for an air pollutant under Section 111(b), EPA triggers Section 111(d)'s

<sup>48</sup> *New Jersey vs. EPA*, 517 F.3d at 581-584.

<sup>49</sup> See generally EPA, "Standards of Performance for New Stationary Sources and Guidelines for Control of Existing Sources: Municipal Solid Waste Landfills," Final Rule, 61 *Federal Register* 9905, March 12, 1996.

<sup>50</sup> *Ibid.*

<sup>51</sup> EPA, "Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills," 81 *Federal Register* 59276, August 29, 2016.

<sup>52</sup> 56 *Federal Register* 5514, February 11, 1991 (establishing 40 C.F.R. Part 60, Subpart Ca, large municipal waste combustors and discussing background of rulemaking).

<sup>53</sup> 42 U.S.C. §7429. CAA Section 129 overrides some otherwise applicable aspects of Section 111(d) for solid waste combustion. For example, Section 129 requires that Section 111(d)/129 state plans be submitted to EPA within one year after promulgation of emission guidelines by EPA, whereas Section 111(d) plans have a different schedule.

<sup>54</sup> 60 *Federal Register* 65387, February 19, 1995 (establishing Subpart Cb under CAA Section 129).

<sup>55</sup> 42 *Federal Register* 55796, October 18, 1977; 56 *Federal Register* 5514, February 11, 1991; and 60 *Federal Register* 65387, December 19, 1995 (establishing current Subpart Cd).

<sup>56</sup> EPA, "Phosphate Fertilizer Plants, Final Guideline Document Availability," 42 *Federal Register* 12022, March 1, 1977.

<sup>57</sup> EPA, "Kraft Pulp Mills; Final Guideline Document; Availability," 44 *Federal Register* 29828, May 22, 1979.

<sup>58</sup> EPA, "Primary Aluminum Plants; Availability of Final Guideline Document," 45 *Federal Register* 26294, April 17, 1980.

<sup>59</sup> See footnote 45, 5-8 (citing 40 C.F.R. Parts Cb, Ce, BBBB, DDDD, FFFF, and MMMM).

<sup>60</sup> EPA, "Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units," Final Rule, 80 *Federal Register* 64509, October 23, 2015.



applicability for existing sources in the Section 111(b) regulated source category for the air pollutant if the air pollutant is neither regulated as a criteria pollutant under a NAAQS nor, according to EPA's interpretation, regulated as a HAP for the source category.<sup>61</sup> Consequently, EPA's adoption of NSPSs for new fossil-fueled power plants for CO<sub>2</sub> triggered Section 111(d)'s applicability for *existing* fossil-fueled power plants for CO<sub>2</sub>.

Conversely, EPA has no authority to set Section 111(d) performance standards for existing sources in a source category for an air pollutant if EPA has no NSPSs for new sources in the source category for the air pollutant. Many of the petitioners challenging the CPP rule for existing power plants are also challenging EPA's NSPSs for new, modified, or reconstructed power plants for CO<sub>2</sub>.<sup>62</sup> Because the CPP rule is predicated on the NSPS rule, a court decision striking down the NSPS rule would undermine the CPP rule's legal basis.

### **Q: How does Section 111 define the term “standards of performance”?**

A: The term “standards of performance” appears repeatedly in CAA Section 111, including in both the Section 111(b) provisions relating to new sources and the Section 111(d) provisions relating to existing sources in a source category. Section 111(a) defines “standard of performance” as

[A] standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.<sup>63</sup>

Under this definition, EPA must determine the “best system of emission reduction” (BSER) that is “adequately demonstrated,” considering certain factors. Then, EPA or states, as applicable, must base the standard for emissions on the degree of emission limitation that is “achievable” through the BSER. The CAA does not define these component terms within the definition of “standard of performance.”

As discussed in more detail below,<sup>64</sup> in the CPP rule, EPA determined the BSER for existing power plants based on three “building blocks”: (1) efficiency improvements at affected coal-fired power plants, (2) generation shifts among affected power plants, and (3) renewable generating capacity.<sup>65</sup> It then used the BSER to set CO<sub>2</sub> emission performance rates.<sup>66</sup> EPA used a different approach to determine the BSER for new, modified, and reconstructed power plants.<sup>67</sup>

<sup>61</sup> See above, “Q: Under what authority did EPA promulgate the Clean Power Plan rule?” and “Q: What does Section 111(d), the authority EPA cited for the Clean Power Plan, bar EPA from regulating?”

<sup>62</sup> See below, “Q: Might other litigation affect the final Clean Power Plan rule?”

<sup>63</sup> CAA §111(a)(1), 42 U.S.C. §7411(a)(1).

<sup>64</sup> See “Q: How did EPA establish the national CO<sub>2</sub> emission performance rates?”

<sup>65</sup> See generally EPA, “Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units,” Final Rule, Part V, 80 *Federal Register* 64661, 64717-64811, October 23, 2015.

<sup>66</sup> See *ibid.*, parts VI-VII, 80 *Federal Register* at 64811-64826.

<sup>67</sup> See EPA, “Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units,” Final Rule, 80 *Federal Register* 64509, 64626-28, October 23, 2015; see also EPA, “Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units,” Final Rule, 80 *Federal Register* 64661, 64718-19 fn. 300, October 23, 2015 (characterizing EPA's interpretation of the requirements for standards of performance and BSER in the 111(b) and 111(d) rules for CO<sub>2</sub> from power plants as “generally consistent except to the extent that they reflect distinctions between new and existing sources”).

Courts have expanded on the CAA Section 111 definition of the term “standards of performance” and EPA’s interpretation of its component terms, but they have done so generally with respect to NSPSs under Section 111(b) rather than emission guidelines for existing sources under Section 111(d).<sup>68</sup> As discussed further below,<sup>69</sup> EPA explains that the interpretation of the term “standards of performance” and related terms is guided by *Chevron U.S.A. Inc. v. NRDC*, 467 U.S. 837 (1984), in which the U.S. Supreme Court stated that if a statute “is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency’s answer is based on a permissible construction of the statute.”<sup>70</sup> However, some opponents of the CPP rule argue that this framework, known as “*Chevron* deference,” should not apply, at least to certain aspects of EPA’s interpretation of CAA Section 111.<sup>71</sup>

## The Final Rule

### Q: By how much would the Clean Power Plan reduce CO<sub>2</sub> emissions?

A: EPA’s final rule does not set a future level of CO<sub>2</sub> emissions from existing electricity generators. The rule establishes uniform national CO<sub>2</sub> emission<sup>72</sup> performance rates—measured in pounds of CO<sub>2</sub> per megawatt-hour (MWh) of electricity generation—and state-specific CO<sub>2</sub> emission rate and emission targets. States determine which measure they want to use to be in compliance.

Although it has been widely reported that the rule would require a 32% reduction in CO<sub>2</sub> emissions from the electricity sector by 2030, compared to 2005 levels, this reduction was EPA’s estimate of the rule’s ultimate effect nationwide. The final rule does not explicitly *require* this level of emission reduction from electric generating facilities or states.

EPA used computer models to project these CO<sub>2</sub> emission levels. The actual emissions would depend on how states choose to comply with the rule and how much electricity is generated (and at what type of generation units).

**Figure 4** compares EPA’s projections of CO<sub>2</sub> emissions in the electricity sector resulting from the final rule with historical CO<sub>2</sub> emissions (1990-2015) from the electricity sector. The figure also illustrates the projected CO<sub>2</sub> emissions from the electricity sector under EPA’s baseline scenario (i.e., business-as-usual). The figure indicates that the final rule would reduce CO<sub>2</sub> emissions in the electricity sector by 32% in 2030 compared to 2005 levels. Under the baseline scenario (without the rule), EPA projected a 16% reduction by 2030 compared to 2005 levels.

<sup>68</sup> See, e.g., *Lignite Energy Council v. EPA*, 198 F.3d 930, 933 (D.C. Cir. 1999); *Sierra Club v. Costle*, 657 F.2d 298 (D.C. Cir. 1981); *ASARCO Inc. v. EPA*, 578 F.2d 319 (D.C. Cir. 1978); *Essex Chemical Corp. v. Ruckelshaus*, 486 F.2d 427 (D.C. Cir. 1973); *Portland Cement Ass’n v. Ruckelshaus*, 486 F.2d 375, 391 (D.C. Cir. 1973).

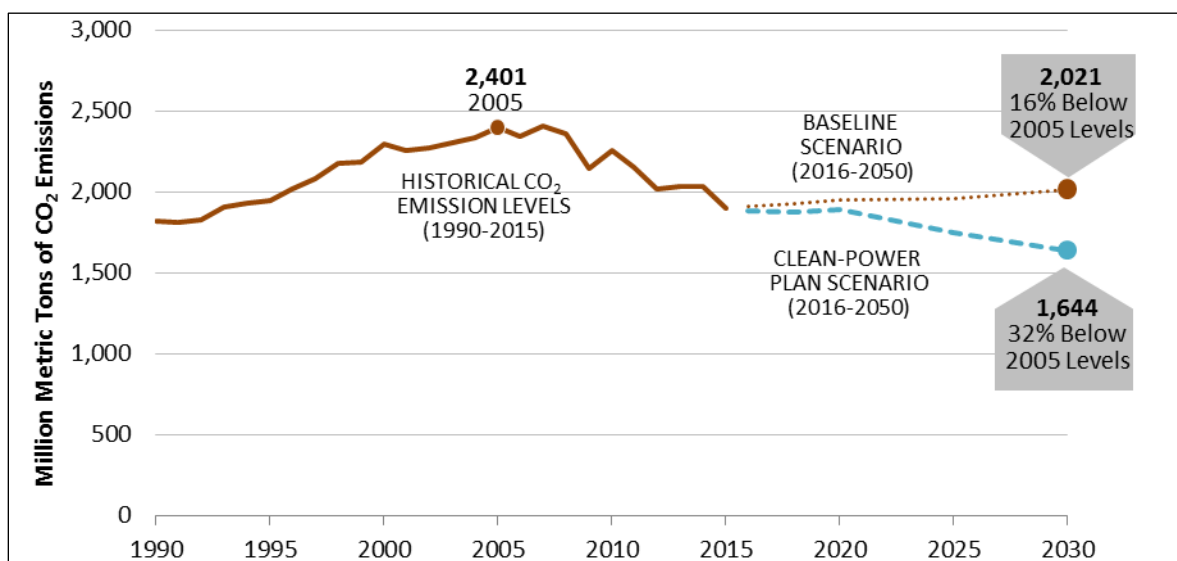
<sup>69</sup> See “Q: What legal arguments are being made for and against the final Clean Power Plan rule?”

<sup>70</sup> 467 U.S. at 842-43.

<sup>71</sup> See “Q: What legal arguments are being made for and against the final Clean Power Plan rule?”

<sup>72</sup> The final rule does not address other GHG emissions. The primary GHGs emitted by humans (and estimated by EPA in its annual inventories) include CO<sub>2</sub>, methane, nitrous oxide, sulfur hexafluoride, chlorofluorocarbons, HFCs, and PFCs.

**Figure 4. U.S. CO<sub>2</sub> Emissions from Electricity Generation**  
 Historical Emissions, EPA Baseline Projection, and EPA Clean Power Plan Projection



**Source:** Prepared by CRS; historical emissions from EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2015*, April 2017; baseline and CPP projections from EPA, Power Sector Modeling, <http://www.epa.gov/airmarkets/programs/ipm/cleanpowerplan.html>.

**Notes:** CRS converted EPA's projected emissions from short tons to metric tons.

The Energy Information Administration (EIA) provided comparable results in its 2017 *Annual Energy Outlook*.<sup>73</sup> EIA estimated that under a reference case scenario, which includes the CPP and other assumptions, CO<sub>2</sub> emissions in the electricity sector would decrease by 36% in 2030 compared to 2005 levels. Under a scenario without the CPP, EIA estimated that CO<sub>2</sub> emissions in the electricity sector would decrease by 22% in 2030 compared to 2005 levels.

### Q: To whom does the Clean Power Plan directly apply?

A: The final rule directs governors (or their designees) to submit state-specific plans to EPA that describe how the states would meet their compliance obligations established by the final rule.

### Q: What types of facilities are affected by the final rule?

A: The final rule addresses CO<sub>2</sub> emissions at “affected” electric generating units (EGUs). In general, an affected EGU is a fossil-fuel-fired unit that was in operation or had commenced construction as of January 8, 2014, has a generating capacity above a certain minimum threshold, and sells a certain amount of its electricity generation to the grid.<sup>74</sup> The state-specific plans describe the requirements that would apply to affected EGUs.

<sup>73</sup> EIA, *Annual Energy Outlook 2017*, January 2017, <https://www.eia.gov/outlooks/aeo/>.

<sup>74</sup> For further details, see EPA, “Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units,” Final Rule, 80 *Federal Register* 64715, October 23, 2015.

**Q: How many EGUs and facilities are affected by the final rule?**

A: Based on data EPA provided in support of its final rule,<sup>75</sup> the affected EGU definition applied to approximately 3,000 EGUs at approximately 1,100 facilities. The number of EGUs and facilities varies by state.

**Q: Does the Clean Power Plan apply to all states and territories?**

A: EPA did not establish emission rate goals for Vermont and the District of Columbia, because they did not have affected EGUs. Although Alaska and Hawaii had targets in EPA's proposed rule, in its final rule, EPA stated that Alaska, Hawaii, and the two U.S. territories with affected EGUs (Guam and Puerto Rico) would not be required to submit state plans on the schedule required by the final rule, because EPA "does not possess all of the information or analytical tools needed to quantify" the best system of emission reduction for these areas. In the final rule preamble, EPA stated it would "determine how to address the requirements of section 111(d) with respect to these jurisdictions at a later time."<sup>76</sup>

**Q: What is the deadline under the final rule for submitting state plans to EPA?**

A: Under the final rule as promulgated, states were required to submit to EPA either an initial plan or final plan by September 6, 2016. If a state submitted an initial plan, the state could seek an extension from EPA to submit its final plan by September 6, 2018. If EPA granted this extension, the state would have been required to submit a progress report by September 6, 2017. Because the rule is currently stayed for the duration of the litigation, and the litigation is likely to continue into 2017 or potentially later,<sup>77</sup> these deadlines do not have legal effect and will likely be delayed if the rule is ultimately upheld.

**Q: What are the different options available to states when preparing their state plans?**

A: States have several key decisions to make when crafting their state plans. Perhaps the most important decision is whether to measure compliance with an emission rate target (pounds of CO<sub>2</sub> per MWh) or a mass-based target (tons of CO<sub>2</sub>). EPA provided both targets in its final rule. If a state decides to set up an emission (or emission rate) trading system, the trading system would be compatible only with systems using the same metric. In other words, a rate-based state cannot trade with a mass-based state.

In addition, the final rule allows for two types of state plans, described by EPA as (1) an "emission standards" approach and (2) a "state measures" approach. With an emission standards approach, a state would implement national CO<sub>2</sub> emission performance rates (discussed below) directly at the affected EGUs in the state. In contrast, a state measures approach would allow a state to achieve the equivalent of the national CO<sub>2</sub> emission performance rates by using some combination of federally enforceable standards and elements that would be enforceable only under state laws (e.g., renewable energy and/or energy efficiency requirements).

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<sup>75</sup> See EPA, "Data File: Goal Computation Appendix 1-5," <http://www2.epa.gov/cleanpowerplan/clean-power-plan-final-rule-technical-documents>.

<sup>76</sup> EPA, "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units," Final Rule, 80 *Federal Register* 64743, October 23, 2015.

<sup>77</sup> See "Q: What is the status and time frame of litigation challenging the final Clean Power Plan rule, and will the rule remain in place while the litigation is pending?"

**Q: Can states join together and submit multi-state plans?**

A: States have the option of submitting multi-state plans. The same deadlines apply to multi-state plans. A multi-state plan would employ either a rate-based or mass-based approach.

**Q: What are the national CO<sub>2</sub> emission performance rates in the final rule?**

A: The final rule establishes uniform national CO<sub>2</sub> emission performance rates—measured in pounds of CO<sub>2</sub> per MWh of electricity generation—for each of the two subcategories of EGUs affected by the rule (**Table 1**). These subcategories include (1) fossil-fuel-fired electric steam generating units, of which coal generation accounts for 94%—oil and natural gas contribute the remainder—and (2) stationary combustion turbines, namely natural gas combined cycle (NGCC) units.

The national rates are a major change from the proposed rule, which did not include similar performance rates at the EGU level. As discussed below, the national CO<sub>2</sub> emission performance rates are the underpinnings for the calculations that EPA used to develop state-specific emission rates and mass-based targets.

**Table 1. National CO<sub>2</sub> Performance Rates**Pounds of CO<sub>2</sub> per Megawatt-hour

	2022	2023	2024	2025	2026	2027	2028	2029	2030	Interim (Average of 2022-2030)	Final (2030)
Fossil steam units	1,741	1,681	1,592	1,546	1,500	1,453	1,404	1,355	1,304	1,534	1,305
NGCC units	898	877	855	836	817	798	789	779	770	832	771

**Source:** Prepared by CRS; annual rates from EPA, *CO<sub>2</sub> Emission Performance Rate and Goal Computation Technical Support Document for CPP Final Rule*, August 2015.

**Note:** To generate the final rates, EPA used the 2030 rates and rounded up to the next integer.

**Q: How did EPA establish the national CO<sub>2</sub> emission performance rates?**

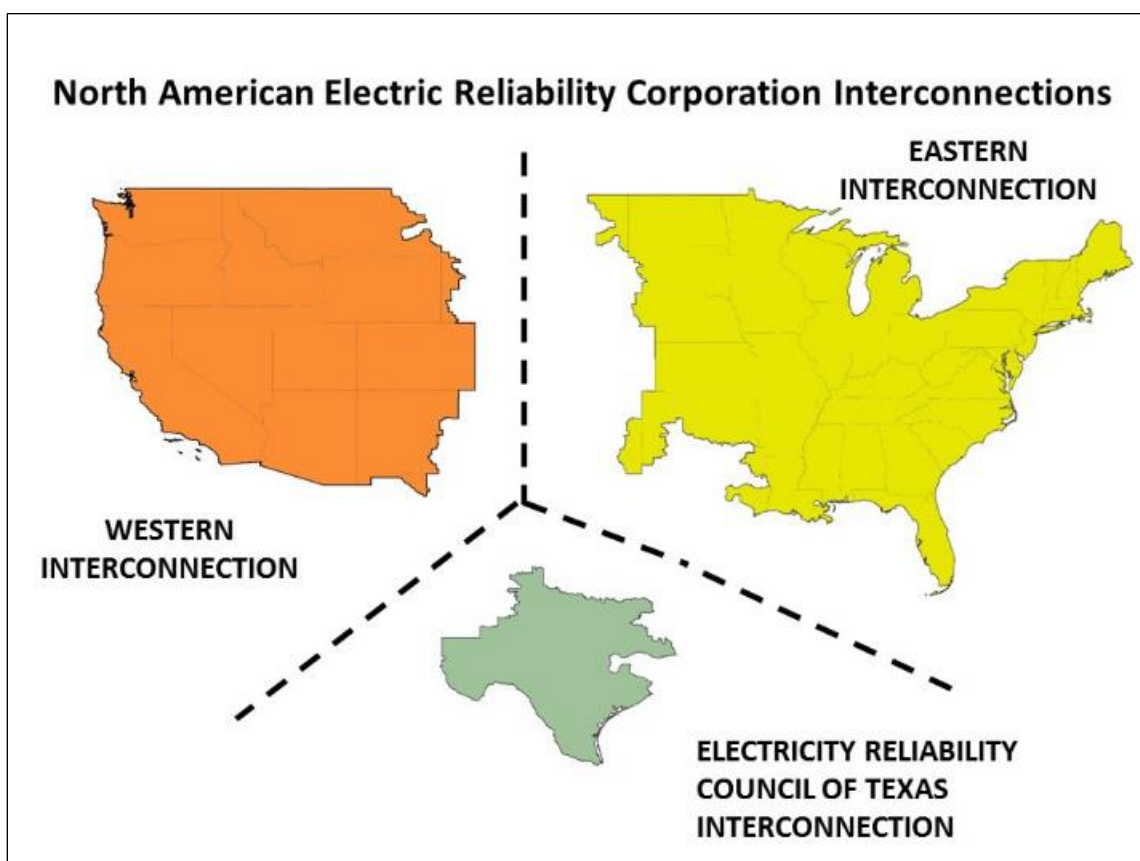
A: EPA compiled 2012 CO<sub>2</sub> emissions and electricity generation data from each affected EGU in each state. Then EPA divided the states into three regions (see **Figure 5**), aggregating the CO<sub>2</sub> emission and electricity generation data. Next, EPA applied three “building blocks” to the aggregated regional data:

- Building block 1: EPA applied heat rate improvements to coal-fired EGUs, improving their overall emission rate. The improvements vary by region from 2.1% to 4.3%.
- Building block 2: EPA assumed that NGCC generation would increase to a specific ceiling, displacing an equal amount of generation from steam units (primarily coal). Note that in the final rule, EPA applies building block 3 before building block 2, dampening the impact of building block 2.
- Building block 3: EPA projected annual increases in renewable energy generation, which resulted in corresponding decreases in generation from

affected EGUs. EPA based the future increases on renewable energy generation increases between 2010 and 2014.

EPA's building block application produced annual CO<sub>2</sub> emission performance rates for steam and NGCC units in each region. EPA compared the rates in each of the three regions and chose the least stringent regional rate as the national standard for that particular year for each EGU category (Table 1).

**Figure 5. Electricity Regions in EPA's Methodology**



**Source:** Reproduced from EPA, *Overview of the Clean Power Plan: Cutting Carbon Pollution from Power Plants*, August 2015, <http://www.epa.gov/airquality/cpp/fs-cpp-overview.pdf>.

**Notes:** EPA did not establish emission rate goals for Vermont and the District of Columbia because they do not currently have affected EGUs. Although Alaska and Hawaii have targets in the proposed rule, in its final rule, EPA stated that Alaska, Hawaii, and the two U.S. territories with affected EGUs (Guam and Puerto Rico) will not be required to submit state plans on the schedule required by the final rule, because EPA "does not possess all of the information or analytical tools needed to quantify" the best system of emission reduction for these areas. EPA stated it will "determine how to address the requirements of section 111(d) with respect to these jurisdictions at a later time" (EPA, "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units," Final Rule, 80 *Federal Register* 64743, October 23, 2015).

### **Q: How did EPA calculate the state-specific emission rate targets?**

**A:** To generate state-specific emission rate targets, EPA applied the national CO<sub>2</sub> emission performance rates to each state's baseline (2012) of fossil fuel generation (steam generation vs. NGCC generation).

For example, in 2012, Arizona's electricity generation mix included



- 49% steam generation, and
- 51% NGCC generation.

To calculate Arizona's 2030 emission rate target, EPA multiplied the percentage of each generation type by the corresponding 2030 national CO<sub>2</sub> emission performance rate (**Table 1**):

$$(49\% \times 1,305 \text{ lbs. CO}_2/\text{MWh}) + (51\% \times 771 \text{ lbs. CO}_2/\text{MWh}) = 1,031 \text{ lbs. CO}_2/\text{MWh}$$

### Q: What are the state-specific emission rate targets?

A: **Table 2** lists the 2030 emission rate targets for each state and the 2012 emission rate baselines. In addition, the table lists the implied percentage reductions required to achieve the 2030 emission rate targets compared to the 2012 baselines.

EPA used different formulas to calculate the 2012 baselines in the proposed and final rules. The final rule baseline includes pounds of CO<sub>2</sub> generated from affected EGUs in each state (the numerator) divided by the electricity generated from these units. The proposed rule baseline included pounds of CO<sub>2</sub> generated from affected EGUs in each state (the numerator) divided by the electricity generated from these units and "at-risk" nuclear power and renewable energy generation (the denominator). Including these additional elements in the denominator often yielded lower baselines compared to the final rule.

Therefore, it is problematic to compare the percentage rate reductions from the proposed rule with the final rule, because the 2012 baseline calculations changed—sometimes dramatically—in the final rule. For example, Washington's 2012 baseline was 756 lbs. CO<sub>2</sub>/MWh in the proposed rule. In the final rule, Washington's 2012 baseline increased by 107% to 1,556 lbs. CO<sub>2</sub>/MWh.

**Table 2. State-Specific Emission Rate Baselines (2012), Emission Rate Targets (2030), and Percentage Reductions Compared to Baselines**

State	2012 Emission Rate Baseline	2030 Emission Rate Target	Percentage Change Compared to Baseline
Pounds of CO <sub>2</sub> per megawatt-hour of electricity generation			
Alabama	1,518	1,018	33%
Alaska	Not established	Not established	NA
Arizona	1,552	1,031	34%
Arkansas	1,816	1,130	38%
California	954	828	13%
Colorado	1,904	1,174	38%
Connecticut	846	786	7%
Delaware	1,209	916	24%
Florida	1,221	919	25%
Georgia	1,597	1,049	34%
Hawaii	Not established	Not established	NA
Idaho	834	771	8%
Illinois	2,149	1,245	42%
Indiana	2,025	1,242	39%

Iowa	2,195	1,283	42%
Kansas	2,288	1,293	43%
Kentucky	2,122	1,286	39%
Louisiana	1,577	1,121	29%
Maine	873	779	11%
Maryland	2,031	1,287	37%
Massachusetts	1,003	824	18%
Michigan	1,928	1,169	39%
Minnesota	2,082	1,213	42%
Mississippi	1,151	945	18%
Missouri	2,008	1,272	37%
Montana	2,481	1,305	47%
Nebraska	2,161	1,296	40%
Nevada	1,102	855	22%
New Hampshire	1,119	858	23%
New Jersey	1,058	812	23%
New Mexico	1,798	1,146	36%
New York	1,140	918	19%
North Carolina	1,673	1,136	32%
North Dakota	2,368	1,305	45%
Ohio	1,855	1,190	36%
Oklahoma	1,565	1,068	32%
Oregon	1,089	871	20%
Pennsylvania	1,642	1,095	33%
Rhode Island	918	771	16%
South Carolina	1,791	1,156	35%
South Dakota	1,895	1,167	38%
Tennessee	1,985	1,211	39%
Texas	1,553	1,042	33%
Utah	1,790	1,179	34%
Virginia	1,366	934	32%
Washington	1,566	983	37%
West Virginia	2,064	1,305	37%
Wisconsin	1,996	1,176	41%
Wyoming	2,315	1,299	44%

**Source:** Prepared by CRS; final rule target and baseline data from EPA, *CO<sub>2</sub> Emission Performance Rate and Goal Computation Technical Support Document for CPP Final Rule*, August 2015, and accompanying spreadsheets, <http://www2.epa.gov/cleanpowerplan/clean-power-plan-final-rule-technical-documents>. The interim and final targets are codified in 40 C.F.R. Part 60, Subpart UUUU, Table 2.



**Notes:** EPA did not establish emission rate goals for Vermont and the District of Columbia because they do not currently have affected EGUs. Although Alaska and Hawaii had targets in the proposed rule, in its final rule, EPA stated that Alaska, Hawaii, and the two U.S. territories with affected EGUs (Guam and Puerto Rico) will not be required to submit state plans on the schedule required by the final rule, because EPA “does not possess all of the information or analytical tools needed to quantify” the best system of emission reduction for these areas. EPA stated it will “determine how to address the requirements of section 111(d) with respect to these jurisdictions at a later time” (EPA, “Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units,” Final Rule, 80 *Federal Register* 64743, October 23, 2015).

### **Q: How did EPA calculate the state-specific mass-based targets?**

A: EPA’s conversion from emission rate targets to mass-based targets involved two steps. First, EPA multiplied a state’s emission rate target (lbs. CO<sub>2</sub>/MWh) for a particular year (e.g., 2022) by the state’s 2012 CO<sub>2</sub> generation baseline (MWh). This yields an initial mass-based value for that year.

Second, EPA determined the amount of renewable energy generation (pursuant to building block 3) that would not be needed to achieve the emission rate targets. This “excess” generation is available because EPA chose the least stringent of the three regional CO<sub>2</sub> performance rates as the national CO<sub>2</sub> performance rate.<sup>78</sup> EPA explained:

Due to the nature of the emission performance rate methodology, which selects the highest of the three interconnection-based values for each source category as the CO<sub>2</sub> emission performance rate, there are cost-effective lower-emitting generation opportunities quantified under the building blocks that are not necessary for affected EGUs in the Western and Texas interconnections to demonstrate compliance at historical generation levels.<sup>79</sup>

EPA calculated the CO<sub>2</sub> emissions associated with this “excess” generation and allocated the CO<sub>2</sub> emissions to all of the states based on their 2012 generation, increasing their annual mass-based targets. As a result, some of the states’ 2030 mass-based targets are higher than their 2012 emission baselines.

EPA based the renewable energy allocation on each state’s share of total electricity generation in 2012 from affected EGUs. For example, in 2012, Florida’s affected EGUs accounted for 8% of the generation from all affected EGUs nationwide, so Florida received 8% of the excess renewable energy generation in the mass-based calculation.

### **Q: What are the state-specific mass-based targets?**

A: **Table 3** lists the state-specific, mass-based targets from EPA’s final rule. The table compares the 2030 targets with the 2012 baselines as calculated for the final rule and provides a percentage change between the two values. Most of the states have emission reduction requirements, but three states (Connecticut, Idaho, and Maine) have 2030 targets that are higher than their 2012 baselines (as discussed above).

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<sup>78</sup> For further discussion of these calculations, see EPA, *CO<sub>2</sub> Emission Performance Rate and Goal Computation Technical Support Document for the CPP Final Rule*, August 2015, <https://www.regulations.gov/document?D=EPA-HQ-OAR-2013-0602-36850>.

<sup>79</sup> EPA, “Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units,” Final Rule, 80 *Federal Register* 64822, October 23, 2015.

**Table 3. State-Specific 2012 CO<sub>2</sub> Emission Baselines and 2030 CO<sub>2</sub> Emission Targets**  
Short Tons—Alphabetical by State

State	2012 CO <sub>2</sub> Emission Baseline	2030 CO <sub>2</sub> Emission Targets	Percentage Change
Alabama	75,571,781	56,880,474	-25%
Alaska	Not established	Not established	Not established
Arizona	40,465,035	30,170,750	-25%
Arkansas	43,416,217	30,322,632	-30%
California	49,720,213	48,410,120	-3%
Colorado	43,209,269	29,900,397	-31%
Connecticut	6,659,803	6,941,523	4%
Delaware	5,540,292	4,711,825	-15%
Florida	124,432,195	105,094,704	-16%
Georgia	62,843,049	46,346,846	-26%
Hawaii	Not established	Not established	Not established
Idaho	1,438,919	1,492,856	4%
Illinois	102,208,185	66,477,157	-35%
Indiana	110,559,916	76,113,835	-31%
Iowa	38,135,386	25,018,136	-34%
Kansas	34,655,790	21,990,826	-37%
Kentucky	92,775,829	63,126,121	-32%
Louisiana	44,391,194	35,427,023	-20%
Maine	2,072,157	2,073,942	0.1%
Maryland	20,171,027	14,347,628	-29%
Massachusetts	13,125,248	12,104,747	-8%
Michigan	69,860,454	47,544,064	-32%
Minnesota	34,668,506	22,678,368	-35%
Mississippi	27,443,309	25,304,337	-8%
Missouri	78,039,449	55,462,884	-29%
Montana	19,147,321	11,303,107	-41%
Nebraska	27,142,728	18,272,739	-33%
Nevada	15,536,730	13,523,584	-13%
New Hampshire	4,642,898	3,997,579	-14%
New Jersey	19,269,698	16,599,745	-14%
New Mexico	17,339,683	12,412,602	-28%
New York	34,596,456	31,257,429	-10%
North Carolina	67,277,341	51,266,234	-24%
North Dakota	33,757,751	20,883,232	-38%
Ohio	102,434,817	73,769,806	-28%

State	2012 CO <sub>2</sub> Emission Baseline	2030 CO <sub>2</sub> Emission Targets	Percentage Change
Oklahoma	52,862,077	40,488,199	-23%
Oregon	9,042,668	8,118,654	-10%
Pennsylvania	119,989,743	89,822,308	-25%
Rhode Island	3,735,786	3,522,225	-6%
South Carolina	35,893,265	25,998,968	-28%
South Dakota	5,121,124	3,539,481	-31%
Tennessee	41,387,231	28,348,396	-32%
Texas	251,848,335	189,588,842	-25%
Utah	32,166,243	23,778,193	-26%
Virginia	35,733,502	27,433,111	-23%
Washington	15,237,542	10,739,172	-30%
West Virginia	72,318,917	51,325,342	-29%
Wisconsin	42,317,602	27,986,988	-34%
Wyoming	50,218,073	31,634,412	-37%

**Source:** Prepared by CRS using data from EPA, *CO<sub>2</sub> Emission Performance Rate and Goal Computation Technical Support Document for CPP Final Rule* (August 2015). The interim and final targets are codified in 40 C.F.R. Part 60, Subpart UUUU, Table 3.

**Notes:** EPA did not establish emission targets for Vermont and the District of Columbia because they do not currently have affected EGUs. Although Alaska and Hawaii had targets in the proposed rule, in its final rule, EPA stated that Alaska, Hawaii, and the two U.S. territories with affected EGUs (Guam and Puerto Rico) will not be required to submit state plans on the schedule required by the final rule, because EPA “does not possess all of the information or analytical tools needed to quantify” the best system of emission reduction for these areas. EPA stated it will “determine how to address the requirements of section 111(d) with respect to these jurisdictions at a later time” (EPA, “Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units,” Final Rule, 80 *Federal Register* 64743, October 23, 2015).

### Q: Does the Clean Power Plan apply to EGUs on Indian lands?

A: The final rule established emission rate and emission targets for three areas of Indian country:

- the Navajo Nation,
- the Ute Tribe of the Uintah and Ouray Reservation, and
- the Fort Mojave tribe.

The targets (**Table 4**) are based on two facilities in the Navajo Nation (the Navajo Generating Station and the Four Corners Power Plant), the South Point Energy Center on the Fort Mojave Reservation, and the Bonanza Power Plant on the Uintah and Ouray Indian Reservation.

**Table 4. Emission Rate and Emission Targets for Areas of Indian Country**

Area of Indian Land	2012 CO <sub>2</sub> Emission Rate Baseline	2030 CO <sub>2</sub> Emission Rate Target	Percentage Change	2012 CO <sub>2</sub> Emission Baseline	2030 CO <sub>2</sub> Emission Targets	Percentage Change
Fort Mojave Tribe	858	771	-10%	583,530	588,519	1%

Area of Indian Land	2012 CO <sub>2</sub> Emission Rate Baseline	2030 CO <sub>2</sub> Emission Rate Target	Percentage Change	2012 CO <sub>2</sub> Emission Baseline	2030 CO <sub>2</sub> Emission Targets	Percentage Change
Navajo Nation	2,121	1,305	-38%	31,416,873	21,700,586	-31%
Ute Tribe	2,145	1,305	-39%	3,314,097	2,263,431	-32%

**Source:** Prepared by CRS. The targets are codified in 40 C.F.R. Part 60, Subpart UUUU, Table 2 (emission rates) and Table 3 (mass-based).

EPA stated that tribes have “the opportunity, but not the obligation,” to establish and submit a plan (after obtaining the necessary approval from EPA) to meet their emission rate targets. If a tribe does not seek approval to submit its own plan, EPA is responsible for establishing a plan, if the agency determines, at a later date, that “a plan is necessary or appropriate.”<sup>80</sup>

On October 23, 2015, in addition to finalizing the CPP and NSPSs for EGUs, EPA *proposed* a rule for a federal plan, which would be implemented by EPA in states that do not submit a satisfactory state implementation plan.<sup>81</sup> In the federal plan rule, EPA proposed “to find that it is necessary or appropriate to regulate affected EGUs in each of the three areas of Indian country that have affected EGUs under the proposed federal plan.”<sup>82</sup> Therefore, EPA would develop and implement the federal plan for EGUs in the relevant Indian lands, unless the tribal governments received EPA approval to submit their own plans to meet their emission targets. However, pursuant to President Trump’s Executive Order 13783, EPA withdrew the federal plan proposed rule on April 3, 2017.<sup>83</sup>

Although EPA withdrew the proposed federal plan, the targets in Indian lands established by the final rule remain. If the final rule is upheld in court, the agency would need to develop and finalize a new federal plan if it determines that “a plan is necessary or appropriate” if a tribe does not seek approval to submit its own plan.

### **Q: Would states and companies that have already reduced GHG emissions receive credit for doing so?**

A: States would not receive “credit” in their emission rate or emission targets for emission reduction measures already taken. Whether individual power companies would receive some type of credit would be decided by states as they develop their implementation plans. The rule requires each state to submit an implementation plan to EPA that identifies what measures/regulations the state would implement to reach its goal.

EPA used 2012 data to prepare the national CO<sub>2</sub> emission performance rates and each state’s emission rate and emission targets. The final rule does not have a process for providing credit for emissions reductions made prior to 2012. EPA contended that states that began action prior to

<sup>80</sup> EPA, “Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units,” Final Rule, 80 *Federal Register* 64664, October 23, 2015.

<sup>81</sup> EPA, “Federal Plan Requirements for Greenhouse Gas Emissions from Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations,” Proposed Rule, 80 *Federal Register* 64966, October 23, 2015.

<sup>82</sup> EPA, “Federal Plan Requirements for Greenhouse Gas Emissions from Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations,” Proposed Rule, 80 *Federal Register* 65033, October 23, 2015.

<sup>83</sup> EPA, “Withdrawal of Proposed Rules,” 82 *Federal Register* 16144, April 3, 2017.

2012, including a shift to less carbon-intensive energy sources or energy efficiency improvements, would be “better positioned” to meet state-specific emission rate goals.<sup>84</sup> However, some stakeholders would likely argue that the 2012 demarcation is unfair to states where investments in substantial amounts of low-carbon generation technology and/or energy efficiency improvements were made prior to 2012.

**Q: How does EPA’s Clean Power Plan interact with existing GHG emission reduction programs in the states, namely the Regional Greenhouse Gas Initiative and California’s climate policies?**

A: A number of U.S. states have already required greenhouse gas (GHG) emission reductions. The most aggressive actions have come from a coalition of states from the Northeast and Mid-Atlantic regions—the Regional Greenhouse Gas Initiative<sup>85</sup>—and California.<sup>86</sup>

The Regional Greenhouse Gas Initiative (RGGI) is a cap-and-trade system involving nine states that took effect in 2009.<sup>87</sup> RGGI applies to CO<sub>2</sub> emissions from electric power plants with capacities to generate 25 megawatts or more.

Pursuant to legislation passed in 2006, California established a cap-and-trade program that took effect in 2013. California’s cap applies to multiple GHGs from multiple economic sectors, covering approximately 85% of California’s GHG emissions. In addition, California has other policies and regulations that address GHG emissions directly and indirectly.<sup>88</sup>

EPA allows states considerable flexibility in meeting their emission rates or emission targets. For example, states can establish new programs to meet their goals or use existing programs and regulations. Moreover, states can meet their goals individually or collaborate with other states to create (or use existing) multistate plans.

It is uncertain whether the scope and stringency of the RGGI program or the California system would be sufficient to meet the targets in EPA’s final rule. In particular, the emission caps in both programs do not go beyond 2020. In addition, legal challenges to California’s program have raised some uncertainty concerning the program’s future.<sup>89</sup>

**Q: What role is there for “outside-the-fence” emission reductions?**

A: “Outside-the-fence” emission reductions play a central role in the methodology EPA used to establish the national CO<sub>2</sub> emission performance rates, which, in turn, provide the foundation for state-specific targets. In particular, building block 3 (discussed above) includes incremental increases of renewable energy generation, with corresponding decreases in electricity generation

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<sup>84</sup> EPA, “Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units,” Final Rule, 80 *Federal Register* 64897, October 23, 2015.

<sup>85</sup> See CRS Report R41836, *The Regional Greenhouse Gas Initiative: Lessons Learned and Issues for Congress*, by (name redacted) . See also <http://www.rggi.org/>.

<sup>86</sup> See <http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm>.

<sup>87</sup> Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. New Jersey participated in the program from 2009 through the end of 2011.

<sup>88</sup> More details are available at <http://www.climatechange.ca.gov/>.

<sup>89</sup> On April 6, 2017, California’s Third District Court of Appeal upheld the program by ruling that the cap-and-trade system does not constitute an unconstitutional tax. It is uncertain whether the challengers will pursue the case to the next level, the California Supreme Court. *Cal. Chamber of Commerce v. State Air Res. Bd.*, 10 Cal. App. 5<sup>th</sup> 604 (Cal. Ct. App. 2017). The opinion is available at <http://www.courts.ca.gov/opinions/documents/C075930.PDF>.

by fossil-fuel-fired units. Renewable energy appears to play a greater role in the final rule's methodology than in the proposed rule. However, the final rule omits building block 4 from the proposed rule, which included energy efficiency improvements other than by the fossil fuel-fired units.

Although outside-the-fence activities were a major component of EPA's target calculations, the degree to which outside-the-fence emission reductions would be used would depend on the policies and requirements states implement through their state plans.

**Q: How would new fossil-fuel-fired power plants and their resulting electricity generation and emissions factor into a state's emission rate or emission calculations?**

A: In EPA's final rule, new EGUs are treated differently under rate-based and mass-based plans. Under a mass-based approach, states have the option of including new fossil-fuel-fired sources in their emission reduction plans. In its final rule, EPA provided mass-based emission targets that include projections of new sources (described by EPA as a "new source complement").<sup>90</sup> This inclusion would facilitate emissions trading within the state and with other states. These new sources would remain subject to the performance standards under CAA Section 111(b).<sup>91</sup>

In its proposed rule, EPA considered whether states could include new NGCC units in their emission rate calculations. In the final rule, EPA specifically prohibited states from including new NGCC units as a means of directly adjusting the state's emission rate. However, if a new NGCC were to effectively replace existing electricity generation from a coal-fired EGU, the state's emission rate would likely decrease with the removal of the coal-fired unit.<sup>92</sup>

**Q: What role does nuclear power play in the Clean Power Plan rule?**

A: EPA modified its treatment of nuclear power in the final rule. In its proposed rule, EPA factored "at risk" nuclear power (estimated at 5.8% of existing capacity) into the state emission rate methodology. As a result, states would have had an incentive to maintain the at-risk nuclear power generation so their emission rates would not increase (all else being equal). The final rule does not include at-risk nuclear generation in its building block calculations.

In addition, in its final rule, EPA decided not to include under-construction nuclear power capacity in the emission rate calculations. Including the estimated generation from these anticipated units in the emission rate equation would have substantially lowered the emission rate targets in Georgia, South Carolina, and Tennessee. If the final rule had retained this feature, and these nuclear units did not enter service, these three states would likely have more difficulty achieving their emission rate goals.

EPA clarified that the final rule would allow the generation from under-construction units, new nuclear units, and capacity upgrades to help sources meet emission rate or emission targets.

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<sup>90</sup> For further details on how EPA calculated the new source complement emissions, see EPA, *New Source Complements to Mass Goals, Technical Support Document for CPP Final Rule*, August 2015, <https://www.regulations.gov/document?D=EPA-HQ-OAR-2013-0602-37110>.

<sup>91</sup> See EPA, "Standards of Performance for Greenhouse Gas Emissions for New, Modified, and Reconstructed Stationary Sources; Electric Utility Generating Units," Final Rule, 80 *Federal Register* 64510, October 23, 2015.

<sup>92</sup> For a discussion of this issue, see EPA, "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units," Final Rule, 80 *Federal Register* 64903, October 23, 2015.



**Q: What role does energy efficiency play in the Clean Power Plan final rule?**

A: In EPA's proposed rule, demand-side energy efficiency (EE) improvements were part of the agency's state-specific emission rate target calculations ("building block 4"). However, in its final rule, EPA did not include demand-side EE improvements as part the agency's national CO<sub>2</sub> emission performance rate calculations, which underlie the state-specific targets.

Although EPA removed demand-side EE assumptions from its target calculations, states may choose to employ EE improvement activities as part of their plans to meet their targets. In particular, the final rule included a new voluntary program that provided incentives for early investments (in 2020 and 2021) in EE programs in low-income communities (as discussed below).

In addition, in its *Regulatory Impact Analysis* (RIA) for the final rule, EPA assumed that EE will play an important role in meeting compliance obligations:

[EE] is a highly cost-effective means for reducing CO<sub>2</sub> from the power sector, and it is reasonable to assume that a regulatory requirement to reduce CO<sub>2</sub> emissions will motivate parties to pursue all highly cost-effective means for making emission reductions accordingly, regardless of what particular emission reduction measures were assumed in determining the level of that regulatory requirement.<sup>93</sup>

**Q: What role does biomass play in the Clean Power Plan?**

A: In its final rule, EPA would allow states to use "qualified biomass" as a means of meeting state-specific reduction requirements. EPA defined qualified biomass as a "feedstock that is demonstrated as a method to control increases of CO<sub>2</sub> levels in the atmosphere."<sup>94</sup> This appears to be a narrower approach than was taken in the proposed rule. Also, EPA required additional accounting and reporting requirements if a state decides to use qualified biomass. The agency gave some indication as to which biomass types may qualify.<sup>95</sup>

**Q: What is the Clean Energy Incentive Program?<sup>96</sup>**

A: The Clean Energy Incentive Program (CEIP) is a voluntary program that would complement the CPP. The CEIP encourages states to support energy efficiency measures and renewable energy projects before the first CPP compliance obligations are scheduled to take effect in 2022. In order to participate in the CEIP, states would need to include particular design elements in their final state plans.

EPA established the framework of the CEIP in its CPP final rule in 2015. EPA issued a proposed rule for the CEIP that was published in the *Federal Register* on June 30, 2016.<sup>97</sup> The proposed rule provided additional details, clarified certain elements that were previously outlined, and altered some of the program eligibility requirements. In response to President Trump's Executive

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<sup>93</sup> U.S. Environmental Protection Agency, *Regulatory Impact Analysis for the Clean Power Plan Final Rule*, October 23, 2015, at <https://www.regulations.gov/document?D=EPA-HQ-OAR-2013-0602-37105> (hereinafter, RIA).

<sup>94</sup> Defined in the final rule regulations (40 C.F.R. §60.5880); EPA, "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units," Final Rule, 80 *Federal Register* 64662, October 23, 2015.

<sup>95</sup> For further information, see CRS In Focus IF10280, *The Clean Power Plan (CPP): The Treatment of Biomass*, by (name redacted)

<sup>96</sup> For more information, see CRS Report R44607, *EPA's Clean Energy Incentive Program: Background and Legal Developments*, by (name redacted) and (name redacted) .

<sup>97</sup> EPA, "Clean Energy Incentive Program Design Details," 81 *Federal Register* 42940, June 30, 2016.

Order 13783 to review and potentially revise the CPP, EPA withdrew the CEIP 2016 proposed rule on April 3, 2017.<sup>98</sup> The following discussion describes the CEIP as established in the CPP 2015 final rule.

The CEIP would create a system to award credits to energy efficiency projects in low-income communities and renewable energy projects (only wind and solar) in participating states. The credits would take the form of emission rate credits (ERCs) or emission allowances, depending on whether a state uses an emission rate or mass-based target, respectively. The credits could be sold to or used by an affected emission source to comply with the state-specific requirements (e.g., emission rate or mass-based targets).

Renewable energy projects would receive one credit (either an allowance or ERC) from the state and one credit from EPA for every two MWh of solar or wind generation. EE projects in low-income communities would receive double credits: For every two MWh of avoided electricity generation, EE projects will receive two credits from the state and two credits from EPA. EPA would match up to the equivalent of 300 million short tons in credits during the CEIP program life. The amount of EPA credits potentially available to each state participating in the CEIP depends on the relative amount of emission reduction each state is required to achieve compared to its 2012 baseline. Thus, states with greater reduction requirements would have access to a greater share of the EPA credits.

To generate the credits, states would effectively borrow from their mass-based or rate-based compliance targets for the interim 2022-2029 compliance period. EPA would provide its share of credits from a to-be-established reserve.

### **Q: How does the final Clean Power Plan differ from the proposed rule?**

A: EPA's 2015 final rule is different from EPA's 2014 proposed rule in multiple respects. A key change is the establishment of national CO<sub>2</sub> emission performance rates for the sources affected by the rule: fossil-fuel-fired electric steam generating units and stationary combustion turbines.

EPA used what it called "building blocks" to derive the national emission performance rates and state-specific targets based on the national rates. The final rule's state-specific targets differ from those in the proposed rule, because in the final rule, EPA applied its building block assumptions to regional-level data to create regional CO<sub>2</sub> emission performance rates. These regional rates led to national rates, which were then used to produce state-specific emission rate and emission targets. By contrast, in the proposed rule, EPA applied building blocks to state-level data, yielding different outcomes.

In addition, EPA modified its target creation methodology (e.g., building blocks) in the final rule. Key modifications include adjustments to

- renewable energy,
- natural gas combined cycle (NGCC) displacement of coal-fired electricity generation,
- heat rate improvements at coal-fired units,
- energy efficiency,
- nuclear power, and
- state-specific 2012 baselines.

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<sup>98</sup> EPA, "Withdrawal of Proposed Rules," 82 *Federal Register* 16144, April 3, 2017.



These methodological changes impact only the state-specific targets. States can choose to use a variety of mechanisms to meet their targets, including, but not limited to, the emission reduction activities assumed in EPA's methodology.

In addition, state compliance with the final rule begins in 2022 instead of 2020 under the proposed rule. The final rule has additional compliance options available to states, particularly in the form of state plans.

## Next Steps

### **Q: What are the next steps in the Clean Power Plan's implementation?**

A: EPA cannot enforce the rule while it is stayed, pursuant to Supreme Court order, for the duration of the litigation over the rule.<sup>99</sup> Some states have not begun implementation planning or have stopped implementation planning for the duration of the stay, while some states have indicated that they intend to continue planning.<sup>100</sup>

The final rule, as promulgated, set a deadline of September 6, 2016, for each state to submit a State Implementation Plan to EPA.<sup>101</sup> In lieu of a completed plan, the final rule authorized a state to make an initial submittal by that date and request up to two additional years to complete its submission. For the extension of time to be granted, the final rule required the initial submittal to address three components sufficiently to demonstrate that the state is able to submit a final plan by September 6, 2018:

1. an identification of the final plan approach or approaches under consideration, including a description of progress made to date;
2. an appropriate explanation for why the state needs additional time to submit a final plan; and
3. a demonstration of how the state has been engaging with the public, including vulnerable communities, and a description of how it intends to meaningfully engage with community stakeholders during the additional time.

In light of the stay, these near-term deadlines lack legal effect. If the rule is ultimately upheld or remanded back to EPA, then initial compliance deadlines would likely be extended until a revised rule is finalized.<sup>102</sup> Following submission of final plans, EPA would review the submittals to determine whether they are approvable.

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<sup>99</sup> See Order in Pending Case, *West Virginia v EPA* (S. Ct. No. 15A773, February 9, 2016), available at [https://www.supremecourt.gov/orders/courtorders/020916zr\\_21p3.pdf](https://www.supremecourt.gov/orders/courtorders/020916zr_21p3.pdf).

<sup>100</sup> See E&E News, "Power Plan Hub: Supreme Court Stay Response," at [https://www.eenews.net/interactive/clean\\_power\\_plan#planning\\_status](https://www.eenews.net/interactive/clean_power_plan#planning_status) (accessed May 9, 2017).

<sup>101</sup> As noted below in "Q: What happens if a state fails to submit an adequate plan by the appropriate deadline?," EPA cannot compel a state to submit a plan, but the statute authorizes EPA to impose a federal plan on the state if a state does not submit a satisfactory plan by EPA's deadline.

<sup>102</sup> See, for example, EPA, "Rulemaking to Amend Dates in Federal Implementation Plans Addressing Interstate Transport of Ozone and Fine Particulate Matter," Interim Final Rule, 79 *Federal Register* 71663, December 3, 2014 (delaying compliance deadlines after court lifted stay of rule and granting EPA motion to toll deadlines for three years, reflecting length of the litigation); *Michigan v. EPA*, No. 98-1497 (D.C. Cir. June 22, 2000) (order lifting stay of a rule relating to interstate transport of air pollution and extending compliance deadlines for State Implementation Plan submissions required by the rule for the same number of days that the stay had been in effect).

The interim compliance period for the rule, as promulgated, begins in 2022, although it is possible that this compliance date could be delayed as well if the rule is ultimately upheld. EPA set an eight-year interim period that begins in 2022 and runs through 2029 and is separated into three steps (2022-2024, 2025-2027, and 2028-2029), each with its own interim goal. Affected EGUs would have to meet each of the step 1, 2, and 3 CO<sub>2</sub> emission performance rates or follow an EPA-approved emissions reduction trajectory designed by the state itself for the eight-year period from 2022 to 2029. The final rule, as promulgated, requires compliance with the state's final goal by 2030.

**Q: What incentives are there for early compliance?**

A: In general, the CPP states

Incremental emission reduction measures, such as RE [renewable energy] and demand-side EE, can be recognized as part of state plans, but only for the emission reductions they provide during a plan performance period. Specifically, this means that measures installed in any year after 2012 are considered eligible measures under this final rule, but only the quantified and verified MWh of electricity generation or electricity savings that they produce in 2022 and future years may be applied toward adjusting a CO<sub>2</sub> emission rate.<sup>103</sup>

As noted earlier, however, the CPP provided incentives for states to adopt measures to reduce emissions in 2020 and 2021 under the CEIP. Under the CEIP, EPA would provide credits against CPP requirements for wind and solar projects that commence construction after the date that a state submits its final plan to EPA and that generate metered electricity in 2020 and 2021. EPA would provide double credits for EE measures that result in reducing electricity consumption in low-income communities in participating states in the same two years.<sup>104</sup>

**Q: If the Clean Power Plan is upheld, what happens if a state fails to submit an adequate plan by the appropriate deadline?**

A: EPA cannot compel a state to submit a Section 111(d) plan. Rather, if a state fails to submit a satisfactory plan by EPA's deadline, CAA Section 111(d) authorizes EPA to prescribe a plan for the state. This authority is the same, Section 111(d) says, as EPA's authority to prescribe a federal implementation plan (FIP) when a state fails to submit a state implementation plan to achieve a National Ambient Air Quality Standard (NAAQS).<sup>105</sup> EPA proposed a model FIP on August 3, 2015 (which appeared in the *Federal Register* on October 23, 2015), but withdrew it as directed by Executive Order 13783.<sup>106</sup> If the CPP is upheld in court, EPA would need to re-propose a FIP for states that fail to submit an approvable plan to EPA.

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<sup>103</sup> EPA, "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units," Final Rule, 80 *Federal Register* 64896, October 23, 2015.

<sup>104</sup> For additional information, see "Q: What is the Clean Energy Incentive Program?" above.

<sup>105</sup> CAA §110(c); 42 U.S.C. §7410(c).

<sup>106</sup> See EPA, "Federal Plan Requirements for Greenhouse Gas Emissions from Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations," Proposed Rule, 80 *Federal Register* 64966, October 23, 2015. EPA, "Withdrawal of Proposed Rules," 82 *Federal Register* 16144, April 3, 2017.

**Q: What would the proposed FIP have required?**

A: Just as EPA cannot compel a state to submit a state plan, it also cannot compel a state to meet its average emission targets. FIPs, therefore, would require compliance by individual EGUs in the affected state. The proposed FIP would set either emission rates or emission limits for affected EGUs. According to EPA, the stringency of the federal plan would be the same as the national CO<sub>2</sub> emission performance rates specified in the CPP.<sup>107</sup> In addition, the FIP would establish a trading program that could be used by affected EGUs to meet those limits. If the agency chooses to implement a mass-based program, the proposal envisions the allocation of allowances to individual EGUs based on their historical emissions during the years 2010-2012.<sup>108</sup>

Although the proposed rule set forth both a mass-based and a rate-based option for the proposed trading program, the agency stated that it intended to finalize a single approach—that is, either a rate-based or a mass-based approach—in all FIPs “in order to enhance the consistency of the federal trading program, achieve economies of scale through a single, broad trading program, ensure efficient administration of the program, and simplify compliance planning for affected EGUs.”<sup>109</sup> While accepting comments on both approaches, the agency appeared to be leaning toward a mass-based option for use in the FIPs, stating that it

would be more straightforward to implement compared to the rate-based trading approach, both for industry and for the implementing agency. The EPA, industry, and many state agencies have extensive knowledge of and experience with mass-based trading programs. The EPA has more than two decades of experience implementing federally-administered mass-based emissions budget trading programs including the Acid Rain Program (ARP) sulfur dioxide (SO<sub>2</sub>) trading program, the Nitrogen Oxides (NOX) Budget Trading Program, CAIR, and CSAPR. The tracking system infrastructure exists and is proven effective for implementing such programs.<sup>110</sup>

EPA noted that, under its proposed FIP rule, states with FIPs could still participate in the implementation of the program under these conditions:

- After a federal plan is put in place for a particular state, the state would still be able to submit a plan, which, if approved, would allow the state and its EGUs to exit the federal plan.
- States would be allowed to take delegation of administrative aspects of the federal plan in order to become the primary implementers, or they could submit partial state plans in order to take over the implementation of a portion of a federal plan. For example, the states could replace the federal plan's allowance-distribution provisions with their own allowance-distribution provisions.
- States operating under a federal plan would be allowed to adopt complementary measures outside of that plan to facilitate compliance and lower costs to the benefit of power generators and consumers.

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<sup>107</sup> See the proposed FIP, page 64970.

<sup>108</sup> For a discussion of the proposed allowance allocation system, see EPA, “Allowance Allocation Proposed Rule Technical Support Document (TSD),” August 2015, <http://www2.epa.gov/sites/production/files/2015-11/documents/tsd-fp-allowance-allocations.pdf>.

<sup>109</sup> EPA, “Federal Plan Requirements for Greenhouse Gas Emissions from Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations,” Proposed Rule, 80 *Federal Register* 64970, October 23, 2015.

<sup>110</sup> *Ibid.*

## Costs and Benefits of the Clean Power Plan

### Q: What role did cost play in EPA's choice of emission standards?

A: Under Section 111(a)(1)'s definition of "standards of performance," EPA must consider cost in developing NSPSs and related emission guidelines for existing sources of pollution. Section 111(d)(1) also states that the regulations shall permit the states "to take into consideration, among other factors, the remaining useful life of the existing source to which such standard applies."

In addition, EPA is required by Executive Order 12866 to provide a cost-benefit analysis when it proposes or promulgates economically significant rules. The CPP is an economically significant rule and was therefore subject to the executive order. E.O. 12866 states that "in choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach."<sup>111</sup>

The agency's RIA, which it prepared to comply with the executive order, is available on the agency's website.<sup>112</sup>

### Q: What were EPA's estimates of the costs of this rule?

A: The cost of the rule would depend on whether states adopt a rate-based or a mass-based approach to compliance, among other factors. In EPA's analysis, the cost associated with a mass-based approach is generally less than that of the rate-based: EPA estimated the annual incremental compliance cost for the *mass-based* approach to be \$1.4 billion in 2020, \$3.0 billion in 2025, and \$5.1 billion in 2030. The comparable figures for the *rate-based* costs were \$2.5 billion in 2020, \$1.0 billion in 2025, and \$8.4 billion in 2030. Because states would generally determine how to comply with the goals established by the final rule, EPA referred to these cost estimates as "illustrative" and noted that they "do not represent the full suite of compliance flexibilities states may ultimately pursue."<sup>113</sup> EPA described the cost estimates as including "the net change in the annualized cost of capital investment in new generating sources and heat rate improvements at coal-fired steam-generating units, the change in the ongoing costs of operating pollution controls, shifts between or amongst various fuels, demand-side energy efficiency measures, and other actions associated with compliance."<sup>114</sup>

### Q: What other estimates of the Clean Power Plan's cost are there?

A: On November 9, 2015, the American Coalition for Clean Coal Electricity, an industry group, released a study of the CPP's impacts prepared by NERA Economic Consulting. The study concluded that the annual cost of compliance would range from \$29 billion to \$39 billion in the period 2022-2033 and that 40 states would see average electricity price increases of 10% or more under at least one of the scenarios it modeled.<sup>115</sup> A study released by the National Mining

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<sup>111</sup> "Regulatory Planning and Review," Executive Order 12866, signed September 30, 1993, at <https://www.archives.gov/files/federal-register/executive-orders/pdf/12866.pdf>.

<sup>112</sup> RIA.

<sup>113</sup> RIA, p. ES-9.

<sup>114</sup> RIA, p. ES-9.

<sup>115</sup> NERA Economic Consulting, *Energy and Consumer Impacts of EPA's Clean Power Plan*, prepared for the (continued...)

Association projected sharp increases in the cost of both electricity and natural gas as a result of the rule, with a cumulative increase in wholesale electricity costs of \$214 billion between 2022 and 2030.<sup>116</sup>

Others, including electric power producers and regional transmission organizations, have argued that it is too early to arrive at cost estimates.<sup>117</sup> Much would depend on decisions to be made by the states as to how they would structure their regulatory programs and on projections of the cost of natural gas, coal, renewable power, and end-use efficiency measures between now and 2030.

### **Q: What were the benefits EPA estimated for the Clean Power Plan?**

A: In the preamble to the final rule, EPA cited monetized climate benefits of the rule to be \$20 billion in 2030 and the air pollution health co-benefits of the rule to be an additional \$12 billion to \$34 billion (all estimates in 2011 dollars).<sup>118</sup> The agency's estimate of climate benefits was based on interagency estimates of the "social costs of carbon" (SCC)<sup>119</sup> that were withdrawn by E.O. 13783.<sup>120</sup> The SCC estimated the monetary value of global impacts from U.S. CO<sub>2</sub> emission changes, including net changes in agricultural productivity and human health, property damage from increased flood risk, and changes in energy system costs, such as reduced costs for heating and increased costs for air conditioning. Should the EPA revise or rescind the CPP, following E.O. 13783, EPA would likely need to develop new monetized estimates of the costs or benefits of changing CO<sub>2</sub> emissions from the promulgated level by using alternative SCC estimates, full physical and economic modeling of climate impacts and benefits, or another method.

The air pollution health co-benefits of the CPP reflect reduced exposure to fine particulate matter (PM<sub>2.5</sub>) and ozone. The health co-benefit estimate was expressed as a range. The range primarily reflected the use of concentration-response functions from different epidemiology studies.<sup>121</sup>

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American Coalition for Clean Coal Electricity, November 7, 2015, <http://www.americaspower.org/wp-content/uploads/2015/11/NERA-CPP-Final-Nov-7.pdf>.

<sup>116</sup> Energy Ventures Analysis, *EPA's Clean Power Plan: An Economic Impact Analysis*, prepared for the National Mining Association, November 17, 2015, <http://nma.org/index.php/press-releases-2013/2376-clean-power-plan-will-add-214-billion-to-wholesale-electricity-prices>.

<sup>117</sup> See, for example, ClimateWire, "Experts Say Accurate Clean Power Plan Cost Estimate Won't Arrive for Years," November 30, 2015. The article cites officials at the two largest regional transmission organizations, PJM Interconnection and Midcontinent Independent System Operator, among others.

<sup>118</sup> Each of these estimates used a 3% discount rate (EPA, "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units," Final Rule, 80 *Federal Register* 64680-64681, October 23, 2015). Discount rates reflect the preference of most people to have money now rather than in the future. Thus, they discount the value of future benefits derived from the rule. Besides the 3% discount rate, EPA estimated the climate benefits using three other discount rates: 2.5%, 5%, and "the 95<sup>th</sup> percentile at a 3% discount rate." Estimates of the climate benefits ranged from \$6.4 billion to \$61 billion in 2030, depending on which of these discount rates was used (80 *Federal Register* 64934).

<sup>119</sup> Interagency Working Group on Social Cost of Carbon, with participation by Council of Economic Advisers, Council on Environmental Quality, Department of Agriculture, Department of Commerce, Department of Energy, Department of Transportation, Domestic Policy Council, Environmental Protection Agency, National Economic Council, Office of Management and Budget, Office of Science and Technology Policy, and Department of the Treasury, "Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866," May 2013, (revised July 2015), <https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/scc-tsd-final-july-2015.pdf>.

<sup>120</sup> For additional information on the SCC and issues following the withdrawal, see CRS In Focus IF10625, *Social Costs of Carbon/Greenhouse Gases: Issues for Congress*, by (name redacted).

<sup>121</sup> To a lesser extent, it reflected the overlapping benefit ranges that EPA estimated for rate-based and mass-based (continued...)

Health benefits reflected monetized estimates for the contiguous United States, not the rest of the world. A reduction in premature fatalities each year accounted for over 98% of the total monetized health co-benefits.

With estimated compliance costs rising to a maximum of \$8.4 billion in 2030, EPA expected that the CPP would yield *net* benefits of \$24 billion to \$49 billion in 2030.<sup>122</sup>

EPA did not monetize other expected co-benefits of this rule, including reduced morbidity from exposure to nitrogen dioxide, sulfur dioxide, and methylmercury and reduced effects from acid deposition. EPA also did not quantify pollution effects on ecosystems or visibility.<sup>123</sup>

## Potential Impacts on the Electricity Sector

### **Q: How might the Clean Power Plan impact electricity prices and electricity bills?**

A: In its RIA, EPA estimated that the *national average retail electricity price* in the contiguous United States would increase by less than 1% in both 2025 and 2030 compared to EPA's baseline scenario.<sup>124</sup> However, EPA's analysis indicated the electricity price changes would vary by region, ranging from a 5.9% increase (Wisconsin/Michigan region) to a 9% decrease (Long Island region) in 2030 compared to the baseline scenario.<sup>125</sup>

By comparison, EPA estimated that the *average monthly residential electricity bill* would decline by 7.0%-7.7% in 2030 (compared to a baseline scenario) as consumption of electricity declines due to efficiency measures.<sup>126</sup> (EPA's analysis did not provide a regional breakout for electricity bill impacts.) Although the final rule did not include energy efficiency activities in the state target calculations,<sup>127</sup> energy efficiency plays a substantial role in EPA's RIA.

### **Q: How did the Clean Power Plan address electricity reliability?**

A: EPA's proposed rule generated substantial interest in the potential effects of the rule on the reliability of electric power supply. EPA asserted that it did not want compliance with the final rule to interfere with industry's ability to maintain the reliability of the nation's electricity supply. EPA's final rule addressed electric system reliability in several ways.

In particular, the final rule contained a provision for a reliability "safety valve" for individual power plants. EPA stated that there may be a need for an EGU to continue to operate and release "excess emissions" if an emergency situation arises that could compromise electric system reliability. The reliability safety valve would allow for a 90-day reprieve from CO<sub>2</sub> emissions

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compliance approaches. The mass-based estimate ranged from \$12 billion to \$28 billion in 2030; the rate-based benefit estimate ranged from \$14 billion to \$34 billion.

<sup>122</sup> Using the full range of benefits and costs reported in the RIA, assuming a 3% discount rate.

<sup>123</sup> A list of quantified and unquantified benefits of the rule is provided in the RIA, pp. ES12 to ES-14, at <https://www.regulations.gov/document?D=EPA-HQ-OAR-2013-0602-37105>.

<sup>124</sup> RIA, p. 3-35 and Tables 3-20 and 3-21.

<sup>125</sup> RIA, Table 3-21.

<sup>126</sup> RIA, p. 3-40.

<sup>127</sup> See above, "Q: What role does energy efficiency play in EPA's final rule?"



limits. EPA stated that the safety valve could be triggered only in an emergency situation. For example, extreme weather events are “of short duration and would not require major—if any—adjustments to emission standards for affected EGUs or to state plans.”<sup>128</sup>

EPA also implemented a formal memorandum of joint understanding on maintaining electric system reliability with the Department of Energy and the Federal Energy Regulatory Commission so as to coordinate efforts while the state compliance plans are developed and implemented. The memorandum expresses the joint understanding of how the agencies will cooperate, share information, monitor states’ progress and implementation of the rule, and resolve difficulties that may be encountered.<sup>129</sup>

### **Q: What types of electricity sector infrastructure changes might result from the Clean Power Plan?**

A: Although the CPP would not directly require infrastructure changes in the electricity sector, states might need to modify or expand existing infrastructure to meet their emission or emission rate targets. For example, increased use of existing NGCC capacity might require upgraded transmission facilities and potentially new natural gas infrastructure to provide fuel. Projected increases in renewable generation would likely require new transmission lines: it can take anywhere from 3 to 10 years to get the federal, state, and local permits in place to build a major electric transmission line.<sup>130</sup> If additional transmission capacity is required, planning would likely need to begin soon to get new lines in place for when they would be needed in the early 2020s.

## **Reconsidering the Rule**

### **Q. What is required by President Trump’s Executive Order 13783?**

A. E.O. 13783, which was signed by President Trump on March 28, 2017, requires reviews of all agency actions “that potentially burden the development of domestically produced energy resources, with particular attention to oil, natural gas, coal, and nuclear energy resources.”<sup>131</sup> The order addresses specific CAA regulations, including the CPP for existing fossil-fueled electric generating units (EGUs) and two proposed rules related to it, the New Source Performance Standards (NSPSs) for new and modified EGUs, and the NSPSs for the Oil and Natural Gas Sector. Each of these rules would control GHG emissions from an energy-producing sector. The E.O. directs EPA to review these rules “for consistency with the policy set forth in section 1 of this order,” and, if appropriate, to “suspend, revise, or rescind” them.

Section 1 lists many goals, including to

- “promote clean and safe development of our nation’s vast energy resources,”

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<sup>128</sup> EPA, “Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units,” Final Rule, 80 *Federal Register* 64878, October 23, 2015.

<sup>129</sup> *EPA-DOE-FERC Coordination on Implementation of the Clean Power Plan*, August 2015, <http://www.ferc.gov/media/headlines/2015/CPP-EPA-DOE-FERC.pdf>.

<sup>130</sup> For further discussion, see CRS Report R44265, *EPA’s Clean Power Plan: Implications for the Electric Power Sector*, by (name redacted).

<sup>131</sup> Executive Order 13783, “Promoting Energy Independence and Economic Growth,” March 28, 2017, Section 2. For further discussion, see CRS Legal Sidebar WSLG1789, *New Executive Order Directs Agencies to Revise or Rescind Climate Change Rules and Policies*, by (name redacted).

- “ensure that the Nation’s electricity is affordable, reliable, safe, secure, and clean,”
- “take appropriate actions to promote clean air and clean water,” and
- ensure that “necessary and appropriate environmental regulations comply with the law, are of greater benefit than cost, when permissible, achieve environmental improvements for the American people, and ... employ the best-available peer-reviewed science and economics.”

EPA has initiated its review of the CPP and the NSPSs for new and modified EGUs.<sup>132</sup> It has been presumed in most commentary on this executive order that the purpose of the reviews will be to rescind the rules in question; but the rules (including the Clean Power Plan) were originally justified by EPA in 2015 as measures that would achieve most of Section 1’s listed goals and to comply with the judicial settlement agreement.<sup>133</sup> Rescinding the rules would require a new justification that can withstand judicial scrutiny. Thus, “review” of the rules does not automatically equate with “rescind.”<sup>134</sup>

### **Q. What would the process for suspending, revising, or rescinding the Clean Power Plan be?**

A. As the result of a stay issued by the Supreme Court in February 2016, implementation of the CPP is already suspended pending the resolution of judicial challenges. As discussed in the “Judicial Review” section of this report, the U.S. Court of Appeals for the District of Columbia (D.C. Circuit) heard oral argument in a case challenging the rule, *State of West Virginia v. EPA*,<sup>135</sup> in September 2016, but has yet to issue an opinion. In April 2017, EPA requested that the D.C. Circuit put the legal challenge to the rule in abeyance for 60 days while the agency considers the next steps in the review of the rule mandated by E.O. 13783. The court agreed, and directed the parties to file briefs to address whether the court should hold the case in abeyance or remand the rule to EPA.

Revising or rescinding the CPP (either of which would likely be termed a “reconsideration” of the rule) would be more complicated than suspending it. Reconsidering a promulgated rule requires the promulgating agency to go through the same steps as the original rulemaking, a process governed in this case by Section 307(d) of the Clean Air Act.<sup>136</sup> Under Section 307(d), a rule must first be proposed in the *Federal Register*, along with “a statement of its basis and purpose” and shall specify a period available for public comment. The statement of basis and purpose must include a summary of the factual data on which the proposed rule is based; the methodology used in obtaining the data and in analyzing the data; and the major legal interpretations and policy considerations underlying the proposed rule.

The statement must also set forth or summarize any pertinent findings, recommendations, and comments by the Clean Air Scientific Advisory Committee and the National Academy of

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<sup>132</sup> EPA, “Review of the Clean Power Plan,” 82 *Federal Register* 16329, April 4, 2017; EPA, “Review of the Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Generating Units” 82 *Federal Register* 16330, April 4, 2017.

<sup>133</sup> See “Q: Why did EPA promulgate the Clean Power Plan?”

<sup>134</sup> For a discussion of the required procedures for amending or rescinding rules, see CRS Report R41546, *A Brief Overview of Rulemaking and Judicial Review*, by (name redacted)

<sup>135</sup> *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. docketed October 23, 2015).

<sup>136</sup> 42 U.S.C. §7607.



Sciences, and, if the proposal differs in any important respect from any of these recommendations, an explanation of the reasons for such differences.

Following proposal and public comment, a reconsidered rule could be promulgated. The promulgated rule must also be accompanied by a statement of basis and purpose, and an explanation of the reasons for any major changes from the proposed rule. The promulgated rule must also be accompanied by a response to each of the significant comments, criticisms, and new data submitted in written or oral presentations during the comment period. The promulgated rule may not be based (in part or whole) on any information or data which has not been placed in the docket as of the date of promulgation.

In the case of review of any action of the Administrator to which subsection 307(d) applies, the D.C. Circuit may reverse any such action found to be arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law, or without observance of the procedures required by law, if the failure to observe such procedure is arbitrary or capricious.<sup>137</sup>

## The CPP and the International Paris Agreement

### **Q: What would the CPP contribute to meeting the U.S. GHG mitigation pledge under the international Paris Agreement (PA)?**

The CPP was one major element of President Obama's Climate Action Plan (CAP), a broad federal strategy announced in June 2013 to address human-induced climate change. The CAP, in turn, was part of the U.S. contribution to a global effort, embodied in the Paris Agreement (PA) to halt the increase of GHG concentrations in the atmosphere in order to hold the GHG-induced increase of global temperature below 2°Celsius or less.

There is broad agreement that effectively halting the rise in GHG concentrations would require GHG emissions mitigation by all major emitting countries. The United States historically was the leading GHG emitter until around 2007, when China surpassed it. In 2013, the United States emitted approximately 13% of net human-related GHG emissions, second to China, at approximately 24%.

President Obama pledged in 2015 that the United States would reduce its GHG emissions to 26-28% below 2005 levels by 2025.<sup>138</sup> The status of that U.S. pledge is now in flux. On June 1, 2017, President Trump announced that the United States would withdraw from the Paris Agreement. The timing, method, and specifics of this action are unclear. A White House official reportedly stated that the United States will follow the four-year legal procedure for withdrawal outlined in Article 28 of the PA: The United States may submit its written intent to withdraw three years after the treaty entered into force for the United States, on November 4, 2016. Withdrawal may take effect one year later—on or after November 4, 2020. In the meantime, the United States remains a Party to the PA (unless, following customary international law, the other Parties agree to allow an earlier exit). The Administration did not indicate whether and how the United States may participate in PA procedures until withdrawal is complete; one question is whether the United States will formally withdraw its NDC prior to withdrawal from the PA.

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<sup>137</sup> 42 U.S.C. §7607(b), (d)(9).

<sup>138</sup> This is not the first U.S. quantitative GHG emission reduction pledge. President George W. Bush made the first commitment to a GHG target, on February 4, 2002, to reduce U.S. GHG emissions per unit of Gross Domestic Product by 18 by 2012. President Obama pledged in 2009 to reduce emissions "in the range of 17%" by 2012.

At least 165 GHG pledges have been submitted, covering almost 190 countries, including all major emitters. The PA has 148 Parties—governments that have legally ratified or accepted the agreement—out of 195 Signatories. Of the top 20 emitting nations, only Iran and Russia are not Parties.

Though submitting a pledge is mandatory for all countries that are party to the international Paris Agreement (PA),<sup>139</sup> including the United States, the quantitative GHG target is not legally binding. The U.S. submission is now recorded in the PA's registry as the U.S. Nationally Determined Contribution (NDC). President Obama's CAP, along with projected economic and technological developments, was expected to achieve most of the GHG reductions necessary to meet the U.S. NDC target, but further policy actions would likely have been required.

EPA estimated that the electricity sector's CO<sub>2</sub> emissions would decrease by 28% from 2005 to 2025 (the target year for the U.S. NDC) under the CPP and certain assumptions; this would be approximately 11-12% below EPA's baseline projection for affected EGUs (i.e., without the CPP). The 680-709 million metric tons (Mt)<sup>140,141</sup> of CO<sub>2</sub> reductions projected from the electricity sector under a scenario that includes the CPP were estimated to constitute 36-37% of the 1901 Mt net reduction that would achieve a 26% reduction below the 2005 level—the minimum U.S. target.<sup>142</sup>

**Figure 6** illustrates EIA's analysis of the effects of uncertainties on CO<sub>2</sub>-only projections,<sup>143</sup> reflecting a variety of plausible assumptions under current policies, and one scenario without the CPP. The scenario without the CPP is the highest of the U.S. CO<sub>2</sub> emission scenarios.<sup>144</sup>

The CPP would continue to reduce CO<sub>2</sub> emissions beyond the U.S. target for 2025, into the next NDC to 2030 under the Paris Agreement. (Parties must submit subsequent NDCs at least every five years). Two factors that influence the effect of the CPP in 2025 are that (1) it will not have taken full effect by 2025, and (2) the baseline projections through the early 2020s are strongly influenced by federal tax incentives to promote renewable energy investments, which are counted in the baseline projections.

These estimates of the contribution of the potential contribution of the CPP, should it stay in effect, to meeting the U.S. GHG target for 2025 should not be considered precise for a number of reasons. There are uncertainties related to the “baseline” economic and policy circumstances, on which emissions projections are based. Uncertainties include other federal and state policies, rates of economic growth, relative fuel abundances and prices, technological advance, consumer and investor preferences, and other factors. There are also uncertainties, though generally thought to be smaller, regarding how states and affected private entities might implement the CPP.

<sup>139</sup> For more information on the UNFCCC, the Kyoto Protocol, and the Paris Agreement, see CRS Report R44609, *Climate Change: Frequently Asked Questions about the 2015 Paris Agreement*, by (name redacted) and (name redacted).

<sup>140</sup> U.S. Environmental Protection Agency, *Regulatory Impact Analysis for the Clean Power Plan Final Rule*, October 23, 2015, at <https://www.regulations.gov/document?D=EPA-HQ-OAR-2013-0602-37105>, p. 3-19.

<sup>141</sup> CRS converted the 750-782 million short tons of reduction below the projected baseline in 2025, as cited in the RIA, to million metric tons, to be consistent with the pledge for the Paris Agreement.

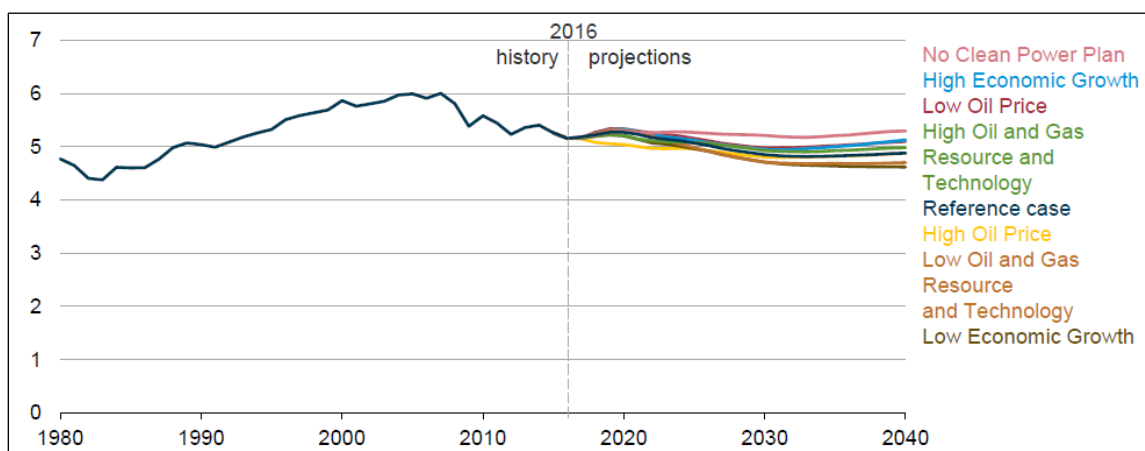
<sup>142</sup> The electricity sector would contribute additional GHG reductions beyond the CPP due to other factors, including the switch from coal to natural gas and renewable energy for economic reasons, and ongoing efficiency improvements included in the baseline projection for the RIA.

<sup>143</sup> CO<sub>2</sub> emissions account for the vast majority of total U.S. GHG emissions, approximately 82% in 2016.

<sup>144</sup> EIA, *Annual Energy Outlook 2017*, January 2017, <https://www.eia.gov/outlooks/aeo/>.

**Figure 6. EIA Projections of All Energy-Related CO<sub>2</sub> Emissions Under Various Assumptions**

in billions metric tons of carbon dioxide, historical and projected



**Source:** Energy Information Administration, *Annual Energy Outlook 2017*, as shown in Adam Sieminski, *Annual Energy Outlook 2017 Rollout Presentation*, January 5, 2017.

**Notes:** Figure shows neither uncertainty of projections without CPP, nor the effects of rescinding or revising other promulgated regulations that affect CO<sub>2</sub> emissions, such as those restricting GHG emissions of light-duty vehicles in model years 2022-2025, currently under consideration by EPA.

### Q: Can the United States meet its contribution under the Paris Agreement without the Clean Power Plan?

The United States would have been challenged to achieve its NDC GHG target under the Obama Climate Action Plan (CAP). The Clean Power Plan contributes but does not itself enable the United States to meet its NDC pledge. At the end of 2015, the United States provided an accounting of its expectations in its second biennial communication<sup>145</sup> to the international treaty body. It itemized actions, including the CPP, that the United States was implementing or intended that would assist in reducing U.S. GHG emissions. All identified U.S. actions, including the CPP, could reduce GHG emissions (net of removals by sinks) by 12-16% below 2005 levels by 2025, according to the U.S. communication. This would be well short of the U.S. NDC<sup>146</sup> target of 26-28% below the 2005. With additional policies under optimistic assumptions, several analyses indicated that the CAP could have met the U.S. pledge to reduce GHG emissions. More likely, additional measures would be required beyond the CAP.

New policies and actions of the Trump Administration could decrease the likelihood that the United States could meet the NDC target. As discussed above,<sup>147</sup> E.O. 13783 directed the Environmental Protection Agency (EPA) Administrator to review and, if appropriate, to suspend, revise, or rescind, “as appropriate and consistent with law,” including the CPP and other rules that

<sup>145</sup> Department of State, *Second Biennial Communication of the United States of America Under the United Nations Framework Convention on Climate Change*, 2016.

<sup>146</sup> Having communicated the U.S. INDC to the UNFCCC Secretariat in 2015 before joining the PA, the United States is considered, in accordance with paragraph 22 of the Decision to give effect to the PA, to have satisfied the PA’s requirement to submit a first NCD under PA Article 4.2. The Secretariat has now registered the U.S. NDC in the interim NDC Registry, in accordance with PA Article 4.12 and the Decision paragraph 30.

<sup>147</sup> See “Q. What is required by President Trump’s Executive Order 13783?”.

“unduly burden the development or use of domestically produced energy resources beyond the degree necessary to protect the public interest or otherwise comply with the law.” E.O. 13783 also withdrew President Obama’s Climate Action Plan, along with other actions.

On June 8, 2017, EPA sent to the Office of Management and Budget a proposed rulemaking to rescind the CPP. Should the CPP be rescinded, it would further diminish the likelihood that the United States could meet its NDC GHG target. Achieving a Party’s GHG emissions target is not a legal obligation, however, should the United States not withdraw from the accord.

Any projection of future emissions is contingent on assumptions about future economic, policy, and technological conditions. Strategies being undertaken by states and localities and many in the private sector could enhance emission reductions whether or not the CPP is implemented. Other federal policies, including incentives to deploy renewable energy, and to expand production of natural gas, may continue the historical trend away from coal-produced electricity. Rapid technological change in the energy sector may have an even greater influence. Policies of other countries to advance no-emitting electricity production may continue to reduce the costs of key technologies, including renewable energy and carbon capture and sequestration. While many analysts are skeptical that non-federal influences could reduce U.S. emissions to the NDC target, others believe that market, state and local, and philanthropic programs could achieve the 2025 target.

## Congressional Actions

### **Q: Can Congress use the Congressional Review Act (CRA) to disapprove the rule?**

A: The CRA provides a mechanism by which Congress may review and disapprove of agency rules through passage of a joint resolution that is eligible for expedited procedures in the Senate.<sup>148</sup> When passed by both houses of Congress, such a joint resolution is sent to the President for his signature or veto.<sup>149</sup>

The CRA provides expedited procedures for consideration of a joint resolution disapproving a rule in both Senate committee and on the Senate floor. Any time after the expiration of a 20-calendar-day period—which begins after a final rule is received by Congress and published in the *Federal Register*—a Senate committee can be discharged from the further consideration of a CRA joint resolution disapproving the rule.<sup>150</sup> This discharge occurs upon the filing on the Senate floor of a petition signed by at least 30 Senators.<sup>151</sup> Once a CRA joint resolution of disapproval is reported or discharged from Senate committee, any Senator may make a non-debatable motion to proceed to consider the disapproval resolution.<sup>152</sup> This motion to proceed requires a simple

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<sup>148</sup> 5 U.S.C. §§801-808.

<sup>149</sup> For additional information on the CRA, see CRS Report R43992, *The Congressional Review Act (CRA): Frequently Asked Questions*, by (name redacted) and (name redacted) and CRS In Focus IF10023, *The Congressional Review Act (CRA)*, by (name redacted) and (name redacted)

<sup>150</sup> 5 U.S.C. §802(c). It is important to note that the 20-day period is calculated from the receipt and publication of the rule, not from the submission of a disapproval resolution aimed at the rule.

<sup>151</sup> *Ibid.*

<sup>152</sup> 5 U.S.C. §802(d)(1). The motion to proceed to consider contained in the CRA, like the motion to proceed to consider contained in the Standing Rules of the Senate, can be made by any Senator. In modern practice, however, with rare exceptions, Senators defer to the majority leader or his or her designee to make such scheduling motions.

majority for adoption. If the motion to proceed is successful, the CRA disapproval resolution would be subject to up to 10 hours of debate and then voted upon.<sup>153</sup> A non-debatable motion to limit debate below 10 hours is in order. No amendments are permitted.<sup>154</sup> A CRA disapproval resolution requires a simple majority in order to pass.

The time to disapprove the CPP through the CRA's expedited procedures has expired. The EPA's final CPP rule for existing power plants was received in Congress on September 17, 2015,<sup>155</sup> and published in the *Federal Register* on October 23, 2015. Three CRA resolutions of disapproval were introduced following receipt by Congress: H.J.Res. 67, H.J.Res. 72, and S.J.Res. 24. The Senate resolution became eligible for discharge from committee under the CRA's expedited procedures on November 13, 2015. Thirty Senators signed a discharge petition, and the resolution was discharged from the Senate Committee on Environment and Public Works on November 16.<sup>156</sup> The Senate considered the resolution on the floor on November 17, 2015, and passed it by a vote of 52-46.<sup>157</sup>

On December 1, 2015, the House considered S.J.Res. 24, previously passed by the Senate, under procedures from a special rule reported by the Rules Committee and adopted by the House.<sup>158</sup> The resolution was passed in the House by a vote of 242-180.<sup>159</sup> President Obama vetoed the resolution on December 18, 2015.<sup>160</sup> Congress did not take action to override the presidential veto.

### **Q: What other steps might Congress take to replace, rescind, or modify the Clean Power Plan rule?**

A: In addition to joint resolutions of disapproval under the CRA, Congress has considered freestanding legislation or legislation that amends the Clean Air Act in a targeted way to reduce GHG emissions.<sup>161</sup> In the 114<sup>th</sup> Congress, the House passed H.R. 2042, which would have delayed the date on which the CPP's state implementation plans were to be submitted to EPA as well as the compliance date of GHG emission standards for EGUs by a period of time equal to the time required for completion of judicial review. The bill would also have allowed a state to opt out of compliance if the governor determined that the rule would have an adverse effect on ratepayers or have a significant adverse effect on the reliability of the state's electricity system.

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<sup>153</sup> 5 U.S.C. §802(d)(2).

<sup>154</sup> *Ibid.*

<sup>155</sup> The rule was received by the Senate on September 11, 2015, and referred to the Committee on Environment and Public Works on September 17, 2015. See *Congressional Record*, vol. 161 (September 17, 2015), p. S6807. The rule was received by the House on September 11, 2015. See *Congressional Record*, vol. 161 (September 17, 2015), p. H5977. For purposes of the act, a rule is considered to have been "received by Congress" on the later date of its receipt in the Office of the Speaker of the House or its referral to Senate committee.

<sup>156</sup> See *Congressional Record*, vol. 161 (November 16, 2015), p. S7965.

<sup>157</sup> U.S. Senate, Roll Call Votes, 114<sup>th</sup> Congress—1<sup>st</sup> Session, Vote Summary on the Joint Resolution (S.J.Res. 24), [http://www.senate.gov/legislative/LIS/roll\\_call\\_lists/roll\\_call\\_vote\\_cfm.cfm?congress=114&session=1&vote=00306](http://www.senate.gov/legislative/LIS/roll_call_lists/roll_call_vote_cfm.cfm?congress=114&session=1&vote=00306).

<sup>158</sup> H.Res. 539, 114<sup>th</sup> Cong. (providing for one hour of debate on S.J.Res. 24 and S.J.Res. 23 and waiving all points of order).

<sup>159</sup> Final Vote Results for Roll Call 650, S.J.Res. 24, <http://clerk.house.gov/evs/2015/roll650.xml>.

<sup>160</sup> White House, "Memorandum of Disapproval on S.J.Res. 24," press release, December 18, 2015, <https://obamawhitehouse.archives.gov/the-press-office/2015/12/19/memorandum-disapproval-sj-res-24>.

<sup>161</sup> For a broad discussion of congressional options for addressing EPA's GHG regulations, see CRS Report R41212, *EPA Regulation of Greenhouse Gases: Congressional Responses and Options*, by (name redacted) .

S. 1324, as reported by the Senate Environment and Public Works Committee in the 114<sup>th</sup> Congress, contained similar provisions. In addition, it would have prohibited EPA from regulating under Section 111(d) any category of existing sources regulated under the hazardous air pollutant authorities of Section 112, which would include EGUs. It would also have revoked the NSPSs for EGUs promulgated under Section 111(b) and would have set additional requirements for any future EGU standards issued under that authority.

Neither bill was enacted.

Congress could still take action to revise Section 111 as it applies to GHGs, to place specific conditions on future EPA authority to set GHG standards for EGUs and other sources, or to otherwise direct EPA to take action with regard to GHG emissions. In the 115<sup>th</sup> Congress,

Another option that Congress has considered was to place an amendment, or “rider,” on EPA’s appropriation bill to prevent funds from being used to implement the rule. Although riders were attached to appropriation bills as reported or passed by the House or Senate in the 114<sup>th</sup> Congress, none was enacted.

Appropriations measures could remain important to the debate over the CPP, however. As noted above in “Reconsidering the Rule,” revising or revoking the CPP would itself take the form of a rulemaking, requiring EPA to undertake numerous analytical and procedural steps. Under the FY2018 EPA budget, resources would thus need to be available to support this rulemaking.

## Judicial Review

### Q: What parties have joined litigation over the final Clean Power Plan rule?

A: Parties began filing petitions in the U.S. Court of Appeals for the D.C. Circuit (D.C. Circuit) challenging the final CPP rule for CO<sub>2</sub> from existing power plants starting on the day the rule was published in the *Federal Register*.<sup>162</sup> CAA Section 307(b) requires that such petitions for review must be filed in the D.C. Circuit within 60 days after the rule’s publication in the *Federal Register*.<sup>163</sup> The deadline for petitions for review of the CPP rule was therefore December 22, 2015.

Parties that filed petitions challenging the CPP rule include 26 states. West Virginia and Texas spearheaded a coalition of 23 state petitioners in filing the lead case. Oklahoma, North Dakota, and Mississippi filed their own petitions.<sup>164</sup> For an overview of state positions in the CPP litigation, see **Figure 7**. Other petitioners challenging the rule include three labor unions, a number of rural electric cooperatives and an association representing them, more than two dozen industry and trade groups, several nonprofit public policy organizations, and more than two dozen fossil-fuel-related companies and local electric utilities. Other fossil-fuel-related companies have

<sup>162</sup> See docket for *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. docketed October 23, 2015); EPA, “Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units,” Final Rule, 80 *Federal Register* 64661, October 23, 2015.

<sup>163</sup> 42 U.S.C. §7607(b).

<sup>164</sup> See docket for *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. docketed October 23, 2015). The state parties opposing the Clean Power Plan include West Virginia, Texas, Alabama, Arizona (Corporation Commission), Arkansas, Colorado, Florida, Georgia, Indiana, Kansas, Kentucky, Louisiana (Department of Environmental Quality), Michigan (Attorney General Bill Schuette), Mississippi, Missouri, Montana, Nebraska, New Jersey, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Utah, Wisconsin, and Wyoming.







include regional, state, and municipal utilities and power companies,<sup>169</sup> more than a dozen nonprofit organizations (including environmental organizations), and several energy industry associations.<sup>170</sup> Two former EPA Administrators are supporting the CPP as *amici curiae*: William Ruckelshaus, who headed the agency in 1970, when the CAA was enacted, and again in the 1980s; and William Reilly, the EPA Administrator at the time Congress passed the Clean Air Act Amendments of 1990.<sup>171</sup> A coalition including 54 cities and localities is among the entities supporting the CPP as *amici curiae*.<sup>172</sup> An *amicus* brief was also filed in support of the CPP by 44 current and former Senators and 164 current and former Representatives.<sup>173</sup>

Four states have not joined the litigation: Alaska (for which EPA did not set a goal in the final rule),<sup>174</sup> Idaho, Pennsylvania, and Tennessee.

### **Q: What is the status and time frame of litigation challenging the final Clean Power Plan rule, and will the rule remain in place while the litigation is pending?**

The Supreme Court stayed the rule on February 9, 2016.<sup>175</sup> The stay pauses the rule's legal effect while the rule undergoes judicial review, and EPA may not enforce the rule during the stay.

While the CPP rule has been stayed by the Supreme Court, the full en banc court of the D.C. Circuit heard oral arguments in *West Virginia v. EPA* on September 27, 2016.<sup>176</sup> For oral argument, the court focused on five main areas: (1) statutory issues related to state authority and electricity generation shifts among affected power plants and renewable energy providers; (2)

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(...continued)

supporting EPA include New York, California (and its Air Resources Board), Connecticut, Delaware, Hawaii, Illinois, Iowa, Maine, Maryland, Massachusetts, Minnesota (via the Minnesota Pollution Control Agency), New Hampshire, New Mexico, Oregon, Rhode Island, Vermont, Virginia, and Washington. They are joined by city and local governments, including those of the District of Columbia; Broward County and South Miami, Florida; Boulder, Colorado; Philadelphia, Pennsylvania; Chicago, Illinois; and New York City, New York.

<sup>169</sup> *Ibid.* The cities of Austin, Texas, and Seattle, Washington, are participating through their municipally owned utilities.

<sup>170</sup> *Ibid.*

<sup>171</sup> *Ibid.*

<sup>172</sup> *Ibid.*

<sup>173</sup> *Ibid.*

<sup>174</sup> See EPA, "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units," Final Rule, 80 *Federal Register* 64661, 64664, October 23, 2015: "Because the EPA does not possess all of the information or analytical tools needed to quantify the BSER for the two non-contiguous states with otherwise affected EGUs (Alaska and Hawaii) and the two U.S. territories with otherwise affected EGUs (Guam and Puerto Rico), these emission guidelines do not apply to those areas, and those areas will not be required to submit state plans on the schedule required by this final action."

<sup>175</sup> See Order in Pending Case, *West Virginia v. EPA* (S. Ct. No. 15A773, February 9, 2016), [https://www.supremecourt.gov/orders/courtorders/020916zr\\_21p3.pdf](https://www.supremecourt.gov/orders/courtorders/020916zr_21p3.pdf). For further discussion of the stay, see CRS Report R44480, *Clean Power Plan: Legal Background and Pending Litigation in West Virginia v. EPA*, by (name redacted) and (name redacted).

<sup>176</sup> The D.C. Circuit en banc court comprises 11 judges. See generally U.S. Court of Appeals, the District of Columbia Circuit, *Judges*, <https://www.cadc.uscourts.gov/internet/home.nsf/Content/Judges>. Two judges did not participate in the decision to hear the case en banc: Chief Judge Merrick Garland and Judge Nina Pillard. Order at 2, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. May 16, 2016). On September 22, 2016 (five days prior to oral argument), the court issued a notice that Judge Pillard would participate in hearing argument. Order, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. Sept. 22, 2016).

different amendments affecting CAA Sections 111(d) and 112; (3) constitutional issues; (4) notice issues; and (5) record-based issues.<sup>177</sup>

On April 28, 2017, the D.C. Circuit granted EPA's request to pause or hold in abeyance the CPP litigation.<sup>178</sup> The court granted a 60-day abeyance and ordered the parties to file briefs by May 15, 2017 on whether the CPP should be remanded to the agency or held in abeyance for a longer period of time.<sup>179</sup> That same day, the court issued a similar order for the litigation challenging the New Source Performance Standards (NSPSs) for GHG emissions from *new, modified, and reconstructed* power plants.<sup>180</sup>

EPA requested that the court hold the cases in abeyance until EPA has completed its review of the rules to allow EPA to reconsider the prior administration's policy decisions and potentially revise or rescind the rule.<sup>181</sup> Stakeholders supporting the rules argued that the court should issue a decision that could guide EPA's review and revision of the rule.<sup>182</sup> Although EPA had requested that the cases be held in abeyance for more than 60 days, the order appears to acknowledge that the litigation should not proceed when EPA appears likely to revise the rules being challenged in court. Pausing the litigation also provides EPA the broader opportunity to review and revise the power plant rules in light of President Trump's Executive Order 13783, "Promoting Energy Independence and Economic Growth."<sup>183</sup> Without a court decision that could have scrutinized EPA's scope of authority and legal justification for the rules, EPA has greater flexibility in deciding how to revise the power plant rules.

Pausing the litigation has no effect on the CPP's implementation because the Supreme Court stayed the CPP pending the litigation's resolution. Specifically, the Supreme Court stayed the CPP "pending disposition of the applicants' petitions for review in the [D.C. Circuit] and disposition of the applicants' petition for a writ of certiorari, if such writ is sought."<sup>184</sup> The D.C. Circuit is seeking additional briefing on whether it should continue to hold the CPP case in the abeyance during EPA's review or remand the rule to the agency.<sup>185</sup> If the D.C. Circuit decides to continue to hold the litigation in abeyance during EPA's review, the CPP's implementation will remain stayed because the court has not resolved the litigation. The litigation could resume at a later date depending on EPA's actions or other issues that arise in the course of the agency's review.

<sup>177</sup> Order at 2-3, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. Aug. 17, 2016).

<sup>178</sup> Order at 2, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. Apr. 28, 2017).

<sup>179</sup> *Ibid.*

<sup>180</sup> Order at 2, *North Dakota v. EPA*, No. 15-1381 (D.C. Cir. Apr. 28, 2017).

<sup>181</sup> Notice of Exec. Order, EPA Review of Clean Power Plan and Forthcoming Rulemaking, and Motion to Hold Cases in Abeyance, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. Mar. 28, 2017); Notice of Exec. Order, EPA Review of Rule and Forthcoming Rulemaking, and Motion to Hold Cases in Abeyance, *North Dakota v. EPA*, No. 15-1381 (D.C. Cir. Mar. 28, 2017).

<sup>182</sup> *See, e.g.*, State and Municipal Respondent-Intervenors' Opposition to Motion to Hold Proceeding in Abeyance, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. Apr. 5, 2017); Respondent-Intervenor Public Health and Environmental Organizations' Opposition to Motion to Hold Cases in Abeyance, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. Apr. 5, 2017).

<sup>183</sup> Exec. Order, Promoting Energy Independence and Economic Growth (Mar. 28, 2017). For further discussion, see CRS Legal Sidebar WSLG1789, *New Executive Order Directs Agencies to Revise or Rescind Climate Change Rules and Policies*, by (name redacted)

<sup>184</sup> Order in Pending Case, *West Virginia v. EPA* (S. Ct. No. 15A773, Feb. 9, 2016), [https://www.supremecourt.gov/orders/courtorders/020916zr\\_21p3.pdf](https://www.supremecourt.gov/orders/courtorders/020916zr_21p3.pdf).

<sup>185</sup> Order at 2, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. Apr. 28, 2017).

It is unclear how the Supreme Court's stay will be affected if the D.C. Circuit remands the CPP to EPA. Some stakeholders argue that if the D.C. Circuit remands the CPP to EPA without vacating the underlying rule, the remanded CPP would go into effect unless a party seeks review of the D.C. Circuit decision.<sup>186</sup> The final rule, as promulgated in 2015, required states to submit final implementation plans to EPA in 2018 and scheduled the first CPP compliance obligations to take effect in 2022.<sup>187</sup> If the CPP goes into effect because of the remand, EPA could issue a rule extending all CPP compliance dates until it completes its review.<sup>188</sup> In addition, it is unclear whether EPA may vacate the rule on remand if the court did not evaluate the merits of the case.<sup>189</sup>

In its order, the D.C. Circuit requires EPA to submit status reports to the court regarding its review of the regulations every 30 days.<sup>190</sup> EPA has begun its review of the power plant rules and may consider various options to revise or repeal the rules.<sup>191</sup> As noted above (see "Q. What would the process for suspending, revising, or rescinding the Clean Power Plan be?"), if the EPA opts to alter the CPP, the agency will have to provide a "reasonable justification" in a new rulemaking to supported the new rules, including any reductions in the stringency of the GHG standards for power plants.<sup>192</sup> An agency rule that implements a policy change by amending or repealing an existing rule is generally subject to the deferential arbitrary and capricious review.<sup>193</sup> However, the Supreme Court has held that when "serious reliance interests are at stake," an agency must present a "more reasoned explanation" for "why it deemed it necessary to overrule its previous position."<sup>194</sup> As a result, the standard by which a court would scrutinize any potential changes to the CPP would ultimately depend on the substance of those rule changes.<sup>195</sup>

## Q: What legal arguments are being made for and against the final Clean Power Plan rule?

A: This report does not aim to provide a comprehensive preview of the legal arguments for or against EPA's CPP rule as the litigation proceeds. However, the bullet points below offer a few examples, drawn from litigation filings<sup>196</sup> and EPA documents, to illustrate the range of issues.

<sup>186</sup> Juan Carlos Rodriguez, *DC Circ. Freeze On CPP Battle Good News For Trump's EPA*, LAW360 (May 1, 2017), <https://www.law360.com/environmental/articles/918887/dc-circ-freeze-on-cpp-battle-good-news-for-trump-s-epa>.

<sup>187</sup> See "Q: What is the deadline under the final rule for submitting state plans to EPA?" and "Q: What are the next steps in the Clean Power Plan's implementation?"

<sup>188</sup> Juan Carlos Rodriguez, *DC Circ. Freeze On CPP Battle Good News For Trump's EPA*, LAW360 (May 1, 2017), <https://www.law360.com/environmental/articles/918887/dc-circ-freeze-on-cpp-battle-good-news-for-trump-s-epa>.

<sup>189</sup> See generally ADMIN. CONF. OF THE UNITED STATES, *THE UNUSUAL REMEDY OF REMAND WITHOUT VACATUR* (2014), <https://www.acus.gov/sites/default/files/documents/Remand%20Without%20Vacatur%20Final%20Report.pdf>.

<sup>190</sup> Order at 2, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. Apr. 28, 2017).

<sup>191</sup> EPA, "Review of the Clean Power Plan," 82 *Federal Register* 16329, April 4, 2017; EPA, "Review of the Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Generating Units," 82 *Federal Register* 16330, April 4, 2017. See also CRS Report R44807, *U.S. Climate Change Regulation and Litigation: Selected Legal Issues*, by (name redacted)

<sup>192</sup> CRS Report R41546, *A Brief Overview of Rulemaking and Judicial Review*, by (name redacted), p. 15-17.

<sup>193</sup> *Ibid.* at 9-10.

<sup>194</sup> See *Encino Motorcars, LLC v. Navarro*, 136 S. Ct. 2217, 2125 (2016) ("Agencies are free to change their existing policies as long as they provide a reasoned explanation for the change.").

<sup>195</sup> CRS Report R41546, *A Brief Overview of Rulemaking and Judicial Review*, by (name redacted), p. 15-17.

<sup>196</sup> In particular, pursuant to the court's order dated November 30, 2015, petitioners submitted nonbinding statements of issues to be raised in the proceeding. See generally Statements of Issues filed by various Petitioners, docket for *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. docketed October 23, 2015). Petitioners, intervenors in support of petitioners, and *amici curiae* opposing the rule submitted briefs on the merits in late February 2016, setting forth their arguments in (continued...)

- Petitioners challenging the rule have argued that EPA lacks authority under CAA Section 111(d) to regulate CO<sub>2</sub> from power plants because power plants, as a source category, are already regulated for HAP under CAA Section 112.<sup>197</sup> As noted above, EPA has interpreted Section 111(d) as requiring regulation of CO<sub>2</sub> from existing power plants because CO<sub>2</sub> is not a HAP, and other conditions for regulation under Section 111(d) are met.<sup>198</sup>
- Petitioners have also challenged EPA's design of the CPP as exceeding EPA's scope of authority under Section 111(d).<sup>199</sup> They have argued, for example, that Section 111(d) authorizes EPA to require only measures that can be applied to an individual source's performance by the source's owner or operator ("inside the fence line"), such as adoption of pollution control devices or other design or operational standards.<sup>200</sup> Conversely, they say, it does not authorize what they characterize as a reorganization of the nation's electric grid or states' energy economies.<sup>201</sup> EPA has countered, in part, that "the phrase 'system of emission reduction' ... is capacious enough to include actions taken by the owner/operator of a stationary source designed to reduce emissions from that affected source, including actions that may occur off-site and actions that a third party takes pursuant to a commercial relationship with the owner/operator."<sup>202</sup>
- Various petitioners have challenged different technical or programmatic aspects of the rule as arbitrary, capricious, an abuse of agency discretion, or otherwise not in accordance with law pursuant to the judicial review provisions of Section 307 of the CAA.<sup>203</sup> EPA responded to numerous comments along these lines in its rule preamble, Response to Comments documents, and other technical support documents as well as in its response in opposition to the motions to stay.<sup>204</sup>

(...continued)

more detail. See docket for *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. docketed October 23, 2015). Response briefs on the merits from EPA, intervenors in support of EPA, and *amici curiae* supporting the rule are due in late March and early April 2016. Order, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. January 28, 2016). Replies are due April 15, 2016. *Ibid.*

<sup>197</sup> See, e.g., State Petitioners' Motion for Stay and for Expedited Consideration of Petition for Review at 11-15, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. filed October 23, 2015) (hereinafter "States' Motion for Stay").

<sup>198</sup> EPA, "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units," Final Rule, 80 *Federal Register* 64661, 64710-64715, October 23, 2015; Respondent EPA's Opposition to Motions to Stay Final Rule at 37-43, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. filed October 23, 2015) (hereinafter "EPA Opposition to Stay"); see also above, "Q: What does Section 111(d), the authority EPA cited for the Clean Power Plan, bar EPA from regulating?"

<sup>199</sup> See generally Statements of Issues filed by various Petitioners, docket for *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. docketed October 23, 2015).

<sup>200</sup> See, e.g., States' Motion for Stay, at 6 (see footnote 197).

<sup>201</sup> See, for example, Coal Industry Motion for Stay, at 9-11, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. filed October 23, 2015); see also, for example, CRS Legal Sidebar WSLG1360, *EPA's Clean Power Plan: Likely Legal Challenges - Part 2*, by (name redacted) and (name redacted).

<sup>202</sup> EPA, "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units," Final Rule, 80 *Federal Register* 64761, October 23, 2015. See also EPA Opposition to Stay, at 11-37 (see footnote 198).

<sup>203</sup> See generally Statements of Issues filed by various Petitioners, docket for *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. docketed October 23, 2015) (raising issues such as the degree to which the rule allows states to consider the remaining useful life of existing sources, EPA's consideration of different coal types, availability of particular measures under the mass-based and rate-based approaches, and state-specific issues).

<sup>204</sup> See generally EPA, "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility (continued...)

- The parties also debated the standards by which a court should evaluate EPA's interpretation and implementation of CAA Section 111.<sup>205</sup> Under *Chevron v. Natural Resources Defense Council, Inc.*, a court reviewing an agency rule defers to the agency's interpretation of a statute in cases where the statutory language is ambiguous, if the agency's interpretation is reasonable.<sup>206</sup> In the 2014 *Utility Air Regulatory Group v. EPA* decision, however, the Supreme Court opined that where a statutory interpretation by EPA "would bring about an enormous ... expansion in EPA's regulatory authority"—which some petitioners claim the CPP rule would do—a court should demand "clear congressional authorization."<sup>207</sup>
- Some petitioners have argued for CAA Section 111(d) to be interpreted more narrowly than EPA interprets it so as to avoid certain constitutional issues.<sup>208</sup> For example, states and other petitioners have argued that the CPP impermissibly invades traditional state police powers over the electrical grid and commandeers state legislatures.<sup>209</sup> EPA has previewed its responses to such arguments in its Response to Comments and other documents and in its response in opposition to the motions to stay.<sup>210</sup> EPA calls the rule a "textbook example of cooperative federalism"<sup>211</sup> and argues that states can opt to do nothing, in which case the federal plan option imposes no new regulatory obligations on states.<sup>212</sup>
- Some challengers have disputed the adequacy of certain other procedural aspects of the issuance of the rule, alleging impermissible deviation from the proposed rule<sup>213</sup> or impermissible *ex parte* contacts.<sup>214</sup> Supporters of the rule assert that the

(...continued)

Generating Units," Final Rule, 80 *Federal Register* 64661, October 23, 2015; EPA's Responses to Public Comments on the EPA's Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (August 2015), <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2013-0602-37106> (hereinafter "EPA RTC"); EPA Opposition to Stay (see footnote 198). Technical documents related to the CPP can be located in EPA-HQ-OAR-2013-0602 docket at [regulations.gov](http://www.regulations.gov).

<sup>205</sup> See, for example, States' Motion for Stay, at 6 (see footnote 197); Coal Industry Motion for Stay, at 9-11 (see footnote 201); EPA Opposition to Stay, at 27 (see footnote 198).

<sup>206</sup> *Chevron vs. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 842-843 (1984).

<sup>207</sup> *Utility Air Regulatory Group v. EPA*, 134 S. Ct. 2427, 2444 (2014). See also, for example, CRS Legal Sidebar WSLG1315, *What Does King v. Burwell Mean for Chevron?*, by (name redacted).

<sup>208</sup> Intervenor Peabody Energy has stated that the CPP raises a number of issues under the U.S. Constitution. It has argued, for example, that the rule's relation to states raises federalism issues under the Tenth Amendment, that it amounts to agency lawmaking and raises separation of powers issues under Articles I and II, and that it raises just compensation issues under the Fifth Amendment. See Peabody Energy Corp.'s Motion for Stay, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. November 5, 2015).

<sup>209</sup> States' Motion for Stay, at 9 (see footnote 197); Oklahoma's Motion for Stay at 7-20, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. October 28, 2015); Statements of Issues filed by various Petitioners, docket for *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. docketed October 23, 2015).

<sup>210</sup> See EPA RTC, at 193-194 (see footnote 204); EPA Opposition to Stay, at 43-50 (see footnote 198).

<sup>211</sup> EPA Opposition to Stay, at 44 (see footnote 198).

<sup>212</sup> *Ibid.* at 46-47; see also, for example, State Intervenor's Opposition to Petitioners' Motions for a Stay at 2-11, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. December 8, 2015).

<sup>213</sup> North Dakota's Motion for Stay at 18-19, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. filed October 29, 2015); generally Statements of Issues filed by various Petitioners, docket for *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. docketed October 23, 2015).

<sup>214</sup> Energy & Environment Legal Institute Petitioners' Response in Support of Motions to Stay, *West Virginia, et al. v. EPA*, No. 15-1363 (D.C. Cir. filed November 5, 2015).



final rule is a logical outgrowth of the proposal and comments and that EPA properly followed all other procedural requirements.<sup>215</sup>

Some of these issues were addressed during oral argument.<sup>216</sup>

### Q: Might other litigation affect the final Clean Power Plan rule?

A: In addition to the direct legal challenge to the CPP rule for CO<sub>2</sub> from existing power plants, 25 states—led by North Dakota and West Virginia—have filed petitions challenging EPA's final NSPS rule for CO<sub>2</sub> from new, modified, or reconstructed power plants.<sup>217</sup> They have been joined by other petitioners including a labor union, a rural electric cooperatives association, several other fossil-fuel-related companies and utilities, and several industry and trade groups. Most of the states and a number of the nonprofit organizations that intervened in support of the CPP case also intervened in the NSPS challenge in support of EPA.<sup>218</sup> As noted above, the finalization of NSPS for new air pollutant sources under Section 111(b) of the CAA is a prerequisite for the use of authority under Section 111(d) to regulate existing sources, so this litigation could threaten EPA's basis for the CPP.

On April 28, 2017, the D.C. Circuit granted EPA's request to pause or hold in abeyance the litigation challenging the NSPS rule.<sup>219</sup> The court granted a 60-day abeyance and ordered the parties to file briefs by May 15 on whether the rule should be remanded to the agency or held in abeyance for a longer period of time.<sup>220</sup> The court previously canceled the April 17 oral argument for the case.<sup>221</sup>

## For Further Information

### Q: Who are the CRS contacts for questions regarding this rule?

A: CRS analysts, listed below, cover areas related to the proposed rule.

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Clean Air Act	Jim McCarthy	7-....	/redacted/@crs.loc.gov
Legal issues	(name redacted)	7-....	/redacted/@crs.loc.gov
Climate change	Jane Leggett	7-....	/redacted/@crs.loc.gov
State GHG emission programs	Jonathan Ramseur	7-....	/redacted/@crs.loc.gov
Regulatory process	Maeve Carey	7-....	/redacted/@crs.loc.gov

<sup>215</sup> See, for example, EPA, "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units," Final Rule, 80 *Federal Register* 64840-64850, October 23, 2015; EPA Opposition to Stay, at 62-63 (see footnote 198).

<sup>216</sup> For additional information on the CPP oral argument, see CRS Report R44480, *Clean Power Plan: Legal Background and Pending Litigation in West Virginia v. EPA*, by (name redacted) and (name redacted) .

<sup>217</sup> See generally docket for North Dakota v. EPA, No. 15-1381 (D.C. Cir. filed October 23, 2015). Colorado and New Jersey did not join the coalition of states challenging the NSPS rule.

<sup>218</sup> Ibid.

<sup>219</sup> Order at 2, North Dakota v. EPA, No. 15-1381 (D.C. Cir. April 28, 2017).

<sup>220</sup> Ibid.

<sup>221</sup> Order, North Dakota v. EPA, No. 15-1381 (D.C. Cir. March 30, 2017).

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